

University of London, Institute of Education

**The Effects of Preschool Experience  
On Some Aspects of Child Development  
in Bahrain**

Thesis submitted for the degree of Ph.D.

**Julie Hadeed**

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## **Abstract**

### **The Effects of Preschool Experience On Some Aspects of Child Development in Bahrain**

Recent research evidence, primarily from the Western hemisphere, supports the belief that high quality preschool experience has long-lasting effects on the development of children's later lives (Ball, *RSA Start Right Report*, 1994; Bruner, 1980; Schweinhart, Barnes & Weikart, 1993; Sylva, 1993).

The important questions posed for this investigation in Bahrain were:

1. Is attendance at preschool centres (educationally and care orientated) associated with higher scores on measures of child development when compared to a control group of children who remained at home?
2. Is attendance at educationally-orientated preschool associated with higher scores on developmental measures than attendance at care-orientated preschool?
3. Are educationally-orientated pre-schools providing 'a more favourable' environment when compared with care-orientated pre-schools?

The method was a quasi-experimental design utilising pre and post measures over one academic school year period, 1992-1993 (approximately nine months). A total of eight preschool institutions were randomly (stratified sample) selected (four educationally-orientated centres and four care-orientated centres) from four catchment areas covering the entire island of Bahrain. Each area was represented by a sample of 35 children (matched on several background variables) from the two types of preschool orientations and the home group (N=140; 48 in educational group; 48 in care group; 44 in home group). A *Family Background Questionnaire (FBQ)* was applied on the total sample to measure differences between groups on several family characteristics, such as, parent's education, occupations, household structure, number of children in household, provisions for play and learning at home, parent childrearing attitudes and mother's expectations regarding the child's competence and behaviour.

Assessments were made of children's cognitive, social and emotional development: the *Stanford-Binet: L/M Form* (Terman & Merrill, 1960); the *Arithmetic and Block Design Subtests* from *Wechsler Preschool and Primary Scale of Intelligence*: (Wechsler, 1963); the *Draw-A-Person*: (Harris, 1963); *The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children*: (Harter, 1983) and *The Preschool Behaviour Checklist*: (Richman & McGuire, 1982). All instruments were translated into Arabic, back-translated (Brislin, Lonner, Thorndike, 1973) and pilot tested for cultural acceptability.

For the main study (N=140), the 96 preschool attenders were tested soon after school entry (October, 1992) and then again at school year end in June, 1993, while the 44 children serving as the control group were tested in their homes. All testing was carried out in the children's home language.

Additionally, two assessments procedures were used for studying the preschool environments: the *Early Childhood Environment Rating Scale* (Harms & Clifford, 1980); and the *Target Child Observation Instrument* (Sylva, Roy & Painter, 1980).

The results indicated that attendance at preschool centres (care and educationally-orientated) was associated with higher performance on most aspects of development when compared with children who stayed at home. There were significant gains on measures of cognitive development (Stanford-Binet; WPPSI; Draw-A-Person); social competence measures, Perceived Competence; and behavioural/emotional stability for preschool attenders when compared to home children. Multiple regression analyses showed that children in centre-based programmes made significant improvement over the year interval between pre-and post testing: A further within-groups regression analysis revealed that no particular preschool within either group was accounting for the higher/lower scores.

Children attending educationally-orientated pre-schools significantly out-performed children at care-orientated pre-schools and at home on all the measures of development and they made significant improvement over the tested time period (Stanford-Binet:  $p < .001$ ; WPPSI Subtests, Arithmetic and Block Design:  $p < .001$ ; Draw-A-Person:  $p < .001$ ; Preschool Behaviour Checklist:  $p < .001$ ; Harter's Perceived Competence (Cognitive and Physical Competence) and Acceptance Scale (Peer and Maternal Acceptance):  $p < .001$ ).

When comparing preschool environments (care and educational) it was found that the educationally-orientated settings offered a greater degree of attention to



personal care, language/reasoning experiences and the opportunity for creative and social development when compared with the care orientated pre-schools (ECERS,  $p < .01$ ). Teachers at the educational centres were more inclined to support, question and have dialogue with the children when compared to teachers at the care centres. Children at care centres engaged more in adult-directed activities, spent less time in challenging tasks for shorter periods of time (concentration bouts) and had more dialogue with other children when compared with children at educationally-orientated preschools (Target Child Time Sampling).

Implications of this research for preschool educators in Bahrain are discussed as well as varying definitions of 'quality.'

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### **The contribution of assistants to the research**

It was necessary for this investigation to recruit six Bahraini nationals as paid volunteers to collect data (four at pilot testing and two at pre- and post-testing). They were from the same socioeconomic backgrounds as the children assessed and spoke the same Arabic dialect. This was done to allow for maximum ease and familiarity in administering the several instruments used on children. All volunteers were trained by the researcher on procedures for administering the tests and supervised on their administration.

The design, analyses and write-up are the sole responsibility of the researcher. The volunteers helped only in data collection where communication required the local dialect to be spoken. Volunteers were also kept 'blind' as to the different orientations of the preschools sampled.

## Preface

The body of this study investigates several aspects pertaining to the preschool environments in Bahrain, as well as a number of aspects of development regarding the children in these environments. In order to present the results with some sort of clarity and cohesiveness, a sequence for the presentation of the results follows a specific order. Seven chapters have been created:

- 1) An introduction and a **Review of the literature**
- 2) **The aims, background, statement of problem, design and sample, hypotheses, instruments used** to assess children's outcomes on development and preschool environments.
- 3) **Identifying the sample:** presentation of findings which describe background characteristics of the children and their families (**Family Background Questionnaire**); and a presentation of the procedure used to classify two types of preschool orientation: care or educational (**Teacher Questionnaire/Interview**)
- 4) **Method, results and discussion on aspects of the child development:** a presentation of the impact from the assessments administered to children to study developmental outcomes: *Stanford-Binet* (Terman & Merrill, 1961); *Wechsler Preschool and Primary Scale of Intelligence* (Wechsler, 1963); *Draw-A-Person* (Harris, 1963); *Preschool Behaviour Checklist* (McGuire & Richman, 1986); and the *Pictorial Scale of Perceived Competence and Social Acceptance* (Harter, 1986).
- 5) **Discussion 1:** Interpreting and explaining the results from the child outcome measures
- 6) **Methods, results and discussion on aspects of child development:** a presentation of two assessments used to describe and explain differences between the two types of preschool orientations (care and educationally-orientated preschool settings): *The Early Childhood Environment Rating Scale-ECERS* (Harms & Clifford, 1980) and a *Time-Sampling Observation Study-TCCM* (Sylva et al., 1980).
- 7) **Discussion 2:** Interpreting and explaining results from the assessments used to measure characteristics of the preschool environments

Each chapter will be followed by a brief summary review of the findings. There will be two discussion sections: one that follows the results from the assessments used for studying children's developmental outcomes (Chapter 5), and the other will follow the results from the assessments used to describe and explain the preschool environments (Chapter 7).

## **Chapter One**

### **Introduction and review of the literature**



# Chapter One

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# Chapter 1

## 1.1 Introduction

The effects of preschool education are well known (Andersson, 1989, 1992; Ball, 1994; Beller, 1993; Bruner, 1980; Clark, 1988; Johansson, 1993; Kagitcibasi, Sunar & Bekman, 1988; Lazar, Darlington, Murray, Royce & Snipper, 1982; Lee, Brooks-Gunn & Schnur, 1988; Meisels & Shonkoff, 1990; Pugh, 1992; Reifel, 1993; Sylva, 1987, 1990, 1992a, 1993; Zigler & Styfco, 1993). Preschool education and care of high quality have been associated with short and long-term intellectual, social and emotional benefits for children. The strongest impact is demonstrated in children from disadvantaged backgrounds. Additionally, preschool education benefits society at large. Several studies have shown it to be cost-effective, yielding long-term gains in relation to many growing social ills, i.e. crime, dependency on state-welfare benefits, unemployment, teenage pregnancy, drop-out rates, and family instability (Barnett & Escobar, 1990; Schweinhart, Barnes & Weikart, 1993).

This study focuses on the measurable effects of preschool education (in care and educationally-orientated settings) on several aspects of child development (cognitive, social and emotional) in Bahrain. It also looks at the measurable differences between preschool environments, including differences between child/staff behaviours in care and educationally-orientated settings.

### 1.1.1 The aims of this research

This study is a quasi-experiment which aims to investigate the effects of preschool education by:

- 1) defining and classifying provision as 'care-orientated' and 'educationally-orientated'
- 2) assessing several aspects of cognitive, emotional, and social development shortly after children enter the preschool (and in the home-control group) and then at the end of the school year
- 3) assessing characteristics of the preschool environments (care and educationally orientated) and child/staff behavioural differences between types of preschool settings in order to explore the relationship between the preschool environment and child developmental outcomes.

### **1.1.2 Plan of the review**

The aim of this chapter is to provide a theoretical and methodological context for an investigation into the effects of preschool education on aspects of child development in Bahrain. The literature reviewed is presented in four sections:

- 1) how preschool education is defined - its goals and principles, including quality
- 2) the importance of preschool education and its historical trends
- 3) the research evidence on the effectiveness of preschool education on cognitive, social, emotional and physical development
- 4) and some factors that influence the effectiveness of preschool education.

This study begins by not making the assumption that all preschools are the same for everyone, everywhere. The perspective of this review looks at some of the evidence in several countries. There are distinct differences in terminology and variations in types of preschool provision and therefore it makes sense to review how the term 'preschool education' is known and used.

### **1.1.3 Preschool provision: How is it defined?**

The term 'preschool provision' has different meanings in all parts of world and has many forms within each country's boundary. It is often defined by the cultural milieu of the children served and the distinct character which represents its aims, philosophy and methodology for educating young children. Generally, though, preschool provision is described as an 'educational' or 'care' service prior to statutory education where young children gather to engage in their first group experience outside the home under the supervision of staff. The type of provision differs according to the programme structure, pedagogical practice and aims, methodology, curriculum, amount of provision offered, the age range of the children, staffing, funding, and facilities.

The descriptions and figures on child-care and preschool provision are contained in several comprehensive and current reviews (Ball, *The RSA, Start Right Report*, 1994; Curtis, 1992; David, 1990; Holtermann, 1992; Lamb, Sternberg, Hwang & Broberg, 1992; Moss, 1992).

Clearly there are distinctions between preschool provision described 'as 'educational' and 'care.' The former provides services that have explicit pedagogical aims with an emphasis on the child's all 'round development while the latter provides child-care services for looking after the child's need so that parents are freed for work or study. Nurseries (schools, classes), kindergartens and child development centres are a few examples of educational oriented provision, whereas childminding, creches and day-nurseries have been traditionally described as care oriented provision. In practice, there is often an overlap between the two different types of provision that is found in children's centres, family day-care centres and co-operative child care centres.

For this review the descriptions of different types of preschool provision is defined in terms of various government policies in several countries. While this does not allow for detailed descriptions of preschool provision offered (this is discussed in the several reviews previously mentioned), it does provide a comparative gauge for differentiating preschool services provided in several countries, including Bahrain.

#### **1.1.3.1 Preschool policy?**

In most countries the range of early care-child services is provided by varying degrees of support from statutory, voluntary and private agencies. In Britain, more than half the children under five attending 'early childhood care and educational services' go to unsubsidised provision (playgroups, childminders, private nurseries and schools). For children between 2+ - 5 years, the most common form of preschool provision is playgroups (Sylva & Moss, 1992). Playgroups provide for an estimated 890,000 children which is more than all forms of services combined, i.e. 758,000 children in maintained and private (Moss, Brophy & Statham, 1992b). Playgroups (18,000+ registered) are organised small groups of parents (mothers) and children (2+ - 5 years) who meet on a regular part-time basis to facilitate social learning and play for children for a small fee (50p-£1.50 per session). Unlike permanent centre-based provision (nursery school and nursery classes), playgroups are often run in temporary, shared structures which require staff to set-up equipment before and after each session. Similar to Ireland, a growing number of children in Britain (up 32% since 1980, Ball, 1994) are enrolled in infant classes early, which some believe will create more problems than it solves (Ball, 1994; Curtis, 1992; David, 1991; Lamb, Sternberg, Hwang, Broberg, 1992; Sylva & Moss, 1992). One of the difficulties is in comparing international statistics for preschool care and education when early learning is defined in different terms

for different ages, e.g. in Denmark, Sweden, Germany, children attend 'kindergartens' and 'day care centres' for longer hours and up until the age of 6 or 7 years old. Furthermore, there is a wide variation in teacher training practices and qualifications in different countries (Curtis, 1992; David, 1990; Holtermann, 1992; Sylva & Moss, 1992).

Elsewhere in countries such as Belgium, Denmark, France, Italy and Sweden, preschool provision can mean a variety of care from birth to six years. In these countries government provides public funding for full-time preschool care and often, maternal leave and infant care for children from birth to six years. Some of the types of preschool provision and child-care services offered are: pre-primary schooling, called 'ecoles maternelles/kleuterschool (Belgium); kindergartens, nurseries; family-day-care-schemes(Denmark); subsidised home care, 'ecoles maternelles schooling and family-day- care (France); and 'scuola materna' schooling and private nurseries (Italy). In other countries, such as Germany, Norway and Spain, there are similar types of facilities for young children. Recently, governments in these countries have pledged to provide comprehensive, fully-funded programmes to meet the needs for all their children, aged 3-6 years before the year 2000 (Moss, 1994).

The US also offers an assortment of public and private child-care provision for young children which varies according to needs, purpose and programme approach. These types of provision include kindergartens, child development centres, nursery schools, comprehensive family-day-care centres, Head Start centres, child-care centres, day-care centres, co-operative child-care centres, baby-sitting services and many more (Lamb et al., 1992; Reifel, 1993; Zigler & Styfco, 1993).

One of America's well publicised attempts for 'achieving school readiness' (Zigler & Styfco, 1993) has been the federally-funded Head Start Programme, which is a comprehensive, community-based, child-care and health programme. It was established in 1964 as part of Lyndon Johnson's 'War on Poverty' (*Economic Opportunity Act, 1964*) and was intended to serve poor and disadvantaged children and their families in America. Today, there are over 1300 locations across the U. S. that serve over half a million poor children (3-5 year olds) and their families and that figure continues to rise annually with renewed support and funding (Sylva, 1994; Zigler et al., 1993). Unfortunately, Head Start does not answer the need for most of America's families where there are working mothers with children under six (only 16% of the children are eligible). According to Clarke-Stewart (1988) by the year 1995 two-thirds of

mothers of children under five will be in the labour force and at least three-fourths of these children will be in some form of non-parental care. As it stands, most depend on family day-care providers (56%) to offer them the care they need and can afford (Zigler & Hall, 1988). This type of care may be centre-based or in private homes for children from 0-6 years old. It often has a care or educational orientation (or both) and services are either purchased with public funds (tax incentives legislation: Social Security Act, 1975, Title XX; Children's Defence Fund, 1987; ABC Bill, 1989) or paid for by parents. For the most part, government and private industry fall painfully short on their commitment to child care (3500 out of six million--6/100 of 1 per cent - American employers offer child care assistance of any kind). A further shortcoming of child-care practice is the problem of very low pay for child care workers, i.e. they are rated as the second most underpaid workers in the US (Clarke-Stewart, 1988).

Developing countries throughout the Middle East, likewise, follow a similar pattern for providing preschool provision, offering a combination of public and private care. Often, funds and contributions have been made from international organisations to support preschool programmes and training, such as UNESCO, UNICEF and the Bernard Leer Foundation (Al-Jishi, 1990; Bekman, 1992; Lamb et al., 1992; UNESCO, 1993). Well-documented reviews have described and explained past and current preschool educational policies and developments in the region (Morsi, 1990; Nashif, 1985; Shirawi, 1989).

In Bahrain, where this investigation is focused, there is no comprehensive government system for preschool education. Only 20% of all Bahraini preschool age children (State of Bahrain, 1988) attend some sort of preschool institution (playgroups, care-orientated preschools, educationally-orientated preschools, and nurseries) the majority are privately owned and operated (only 3% of the total provision is funded, in part, by government agencies, international organisations [UNESCO, UNICEF, AGFUND], and other local charitable organisations). Unlike Kuwait, which boasts an elaborate government preschool system (Morsi, 1990) that reaches nearly 80% of their total population (2.8 - 6 years), Bahrain faces critical shortages in providing care, especially to those children from deprived socio-economic backgrounds. Most of the facilities (playgroups, nurseries and child-care centres) are poorly housed, under-equipped, and understaffed by unqualified teachers. Adult-directed teaching methods dominate most practices.

Whereas, countries in the West grapple with questions about 'quality care for all' (Sylva, 1992a) and means for expanding existing programmes of preschool

care (Curtis, 1992; Moss, 1992; Weikart, 1993; Zigler & Styfco, 1993), countries like Bahrain (Saudi Arabia, Yemen, Oman, UAE, Qatar) are just beginning to investigate their existing provisions and establish initial teacher training programmes in early childhood education and development (UNESCO Report, 1993).

From this brief overview, it is evident that there are many different types of preschool provision which offer varying degrees of public/private support and commitment. For some (Turkey, Bahrain, Saudi Arabia, UAE), the history of government policy has taken a non-interventionist stance, delegating the responsibility for child care and education for under fives primarily to parents. In practical terms this means that those families who can afford to pay the most tend to receive the best quality of care, leaving those most in need and likely to benefit from good care, left out. Other countries (Belgium, Sweden, France) provide a more cohesive, comprehensive system of preschool education, ensuring standards and providing space for all those families who need child-care, regardless of their economic, social or cultural background.

At present, researchers and educators recommend a period of reconstruction and experimentation to change existing policies on preschool provision (Ball, 1994; Bruner, 1980; Katz, 1993c; Moss, 1990; Sylva & Moss, 1992; Sylva et al., 1980, 1992; Woodhead, 1985; Zigler, 1993). In Britain, one important report (NCE, *Learning to Succeed: A Radical Look at Educational Today and A Strategy for the Future*, 1993) recommends a national strategy for improving early childhood education and care by:

1. issuing a statutory regulation for local authorities to ensure high quality, public funded preschool education for all three and four year olds
2. incorporating criteria for 'good' preschool practice, e.g. 'curriculum' adjustments; professional training for staff; better ratios
3. developing and publishing (Educational and Training Boards) plans for improvement by 1995.

These recommendations are further supported by the more recent Ball report, *Start Right: The Importance of Early Learning* (1994). This report proposes not



only the above strategy for improvement, but suggests that the compulsory full-time schooling age be raised from five to six with a recycling of the resources to offset the costs for free half-day programmes for all three and four year old children. The idea is to provide extended day-care for those who need it, while providing good preschool provision for many (Holtermann, 1992). Other European countries are making future plans to provide more comprehensive care to children under five years (Germany, Spain). In the US there are renewed commitments and plans for expansion of the Head Start programme to meet the growing needs of families with working mothers (Schweinhart et al., 1993; Zigler & Styfco, 1993).

While preschool provision may describe the availability of services provided for families and young children, it does not fully describe or explain preschool education.

#### **1.1.4 Some goals of preschool education**

There is no shortage of literature describing the goals and aims of preschool education (Ball, 1994; Bruce, 1990; Bruner, 1980; Curtis, 1991; David et al., 1992; Katz, 1993a, 1993b; Sylva, 1982; Isaacs, 1954; Lamb, et al., 1992; Vygotsky, 1978). The different types of provision are varied in their patterns of organisation and differ in age range served, amount of provision, staffing, functions served, activities included, and are meticulously reviewed in several sources (Curtis, 1992; Lamb et al., 1992; Osborn & Milbank, 1987; Woodhead, 1979). Preschool educational goals are multipurpose, striving to meet a network of demands from family, community, staff and administration. While continually changing to meet political and social demands, the goals, generally, aim to improve four main, interrelated areas of children's development: intellectual, emotional, social and physical development.

Preschool education seeks to expand the breadth of experiences for the child making a contribution to the child's intellectual development. Under trained and skilled guidance, a child's new contacts with the world become new learning situations which open up new possibilities (Vygotsky, 1977). Intellectually, the goals include the stimulation of curiosity, the enhancement of language development, the ability to accommodate conceptual knowledge (Piaget), i.e. a process of mental change which modifies schemas to fit the child's experiences, the ability to understand and solve problems, and to listen and observe.

In the realm of emotional development, early childhood education aims to promote a child's sense of identity, security and self-respect. When a child feels at ease, yet challenged with a sense of accomplishment at preschool, then the child gains confidence. Maria Montessori expressed this wisely when she said, "the child is saying, let me do it by myself" (1936). When a child feels able to learn on her/his own, the self is valued and respected. An early learning environment which provides children with experiences of success, accomplishment, and a feeling of trust and belonging goes far in building positive self-concepts for children. Researchers have shown that positive self-concept in children plays a crucial role in their future lives (Dweck & Leggett, 1988; Harter, 1990).

Another major goal of early education seeks to provide a framework for further development in social relations. It calls upon the child to accept concern and responsibility for others. An early education environment sets the groundwork for social development by showing the child that others have differences and sensitivities that require tolerance, patience and understanding, i.e. prosocial behaviours (Gamble & Zigler, 1986; Howes & Olenik, 1986; Mussen & Eisenberg-Berg, 1977; Rushton, 1980; Rutter, 1985; Zigler & Hall, 1988). The aim is to prepare the child for later social relations that require responsibility towards others and also respect for others' rights.

Finally, if children are to grow strong and healthy it must be the goal of early education programmes to devote considerable knowledge and attention to the child's physical well-being and development. This goal is usually seen in the extent and degree to which programmes offer materials and apparatus for fine and gross motor control and co-ordination (Cratty, 1985). Equally important is the type and amount of interaction adults have with children while learning and playing (Hutt, Tyler, Hutt, Christopherson, 1989; Smith & Connolly, 1980; Sylva, Roy & Painter, 1986; Sylva, Smith & Moore, 1985; Tizard, Philips & Plewis, 1976b; Tizard & Hughes, 1984; Weikart, 1994; Wells, 1988). Many factors are also known to play an influential role in any preschool centre's physical setting, such as: the extent and type of facilities and equipment for play (Cratty, 1979, 1985; Gallahue, 1982; Blenkin & Kelly 1987); the appropriate balance of free play time and guided play (Curtis, 1986; Moyles, 1989); the space provided for play areas, indoors and out (Smith & Connolly, 1980); adult supervision (David, 1990); and the extent of parental involvement in physical play (Wolfendale, 1983).

#### 1.1.4.1 Principles and beliefs underpinning goals

Underpinning goals are usually principles and beliefs which are manifested in the contents of preschool programmes. Curtis (1992) has identified several important principles which are fundamental to good practice (contained in the Early Years Curriculum Group, 1989). Several of these principles have been recently mentioned in the *RSA Start Right Report* (Ball, 1994, *Good Practice*, p.50). While no single principle is more important than another, it seems relevant to list a few:

Early childhood education is valid in itself and is part of life, not simply a preparation for work, or for the next stage of education.

The whole child is considered to be important-social, emotional, physical, intellectual and moral development are interrelated. Children develop at different rates and in different ways.

Learning is holistic and for the young child is not compartmentalised under subject headings.

Intrinsic motivation is valuable because it results in child-initiated learning.

Autonomy and self-discipline are emphasised.

In the early years children learn best through first hand experiences, i.e. by active learning. What children can do, not what they cannot do, is the starting point in children's education.

There is a potential in all children which emerges powerfully under favourable conditions i.e., children need time and space to produce work of quality and depth.

The adults and children to whom the child relates are of central importance.

The child's education is seen as an interaction between the child and the environment which includes people as well as materials and knowledge.

(Curtis, 1992, p.18)

Well-defined goals and principles, unfortunately, do not provide enough substance for maintaining, improving and addressing the need for high quality in preschool education (HMSO, *Children's Act*, 1989; DES: *Starting with Quality* report, 1990; HEW, *Children's Defense Fund*, 1987; *Head Start Quality*

*Improvement Act*, 1991; Zigler & Styfco, 1993). What is needed is evidence which shows criteria for 'quality' preschool provision (Ball, 1994; Holtermann, 1992; Schweinhart et al., 1993; Zigler & Styfco, 1993).

#### **1.1.4.2 Quality in preschool provision**

Most scholars, researchers and educators would agree that as long as the quality of preschool provision is high, early education and day care can be beneficial for children (Andersson, 1989, 1992; Bruner, 1980; Clarke-Stewart, 1988; Howes, Phillips & Whitebook, 1992; Reifel, 1993; Schweinhart et al., 1993; Sylva, 1986, 1992, 1994; Vandell & Powers, 1983; Vandell, Henderson & Wilson, 1988). Yet, exactly, what is quality? How do we recognise it? Assess it? Does high quality provision lead to better child outcomes than low quality?

##### **1.1.4.2.1 Defining quality**

Quality, by definition has a positive value associated with it. The Oxford Dictionary of Current English (1984) describes quality as: "a degree of excellence; an attribute or faculty; relative nature or character." As Johansson (1993) suggests the lexical description of quality implies two philosophical views on the concept of quality: one is Socratic and the other is Marxist in context. For the Socratic view, quality is based on the 'process' whereby further insights are made by asking and answering well-thought out questions and answers. This method of articulation depends on a background of shared knowledge between questioner and answerer. The key condition to this method is that a process of 'real dialogue' is established and continued, i.e. a 'dialectic method.' The other view, based on materialistic Marxist ideas, associates quality with the *identity* of an object that can be *measured*. This view focuses on characteristics of quality and not, per se, the 'process' as identified by the Socratic view. Johansson (1993) defines quality as "a process-oriented way . . . via continuous judgement of what happens in specific situations where various factors interplay in a dynamic way" (p.23). 'Operational quality' or quality inherent in preschool provision depends on how quality is perceived conceptually.

##### **1.1.4.2.2. Features of quality**

Several educational and research sources (Andersson, 1992; Curtis, 1992; David et al., 1992; DES, Starting With Quality Report, 1990; Johansson, 1993;

Kontos & Dunn, 1993; Moss, 1990; Moss & Melhuish, 1991; Pugh, 1992; Sylva, 1992; Vandell et al., 1988; Weikart, 1987; Woodhead, 1985; Zigler & Styfco, 1993) have defined quality in terms of 'features' which describe preschool provision. While there are numerous features, the following are commonly shared by many:

- (a) a curriculum based on the principle of active learning and 'purposeful play'
- (b) the selection, training, stability/retention, pay/benefits, and child/staff ratio for caregivers
- (c) parental involvement i.e. effective links between home and preschool
- (d) decent buildings and a variety of equipment
- (e) diversity of the peer group
- (f) management practices that include an integration of education and care

(Ball, *Findings and Recommendations*, chap. 8 p. 72).

The features of quality in preschool provision describe quantity, such as available equipment, conditions of buildings, availability of space, and they also describe variables of interaction and involvement which are often referred to as 'process' features of quality. These include teacher training, parent involvement, adult/staff interaction, peer interaction, to mention a few.

Some researchers suggest parents and teachers are the key features of quality in preschool provision (Howes, Phillips & Whitebook, 1992; Pascal & Bertram, 1993; Watt, 1990). In a paper discussing a comparative research project that evaluated early years teacher training in eleven European countries, Pascal & Bertram (1993) have stressed the need for improved training status and working conditions for preschool teachers and practitioners. Highly qualified, skilled and competent teachers are considered central to provision of high quality by these authors. Curtis (1992) does not focus on a single feature of preschool provision but argues that quality is dependent upon the delicate combining of several important features, i.e. methods and curriculum, good teacher training and parent involvement.

While most agree on the important features that describe quality in preschool practice, there is some controversy on the ways in which to assess it in early

childhood preschool settings (Beardsley, 1990; Curtis, 1992; David, 1991; Fiene, 1992; Harms & Clifford, 1980; Holtermann, 1992; Howes et al., 1992; Johansson, 1993; Katz, 1993a; Pascal & Bertram, 1993).

#### 1.1.4.2.3. Assessing quality

Harms & Clifford (1980), Fiene (1992) and others have developed and validated instruments to assess care and education preschool environments. These rating scales provide an overall index measure for gauging preschool conditions and surroundings. They are generally descriptive and informative assessments which often provide important practical value to caregivers and teachers. Their role as indices of quality, though have presented some concern (Benham, Miller & Kontos, 1988; Farquhar, 1989; Kontos & Fiene, 1985). Some have argued that rating scales do not take into consideration inter-personal relationships between child, parent and staff, such as respect, support, experience and personal values (Katz, 1993b; Rutter, 1985). Other concerns suggest that they may be 'culture specific' and unable to detect and assess indices of quality in provision in other cultures (Farquhar, 1989; Goelman & Pence, 1987). As a result, agreement as to what actually constitutes high quality programmes in other countries (outside the US and possibly in non-English-speaking countries) is inconsistent and controversial.

Further research based on empirical enquiry goes beyond descriptive and informative assessment and aims to provide 'indicators' of quality in preschool provision. While 'features' may describe and inform, indicators are 'associated with' and may be predictive indices of beneficial child outcomes. Several experimental and quasi-experimental studies discussed throughout this review have demonstrated the effects of high quality preschool care and education provision associated with immediate and lasting gains (cognitive, social and emotional) on children's development (Field, 1991; Howes, 1990; Kontos & Dunn, 1993; Phillips, McCartney, Scarr, 1987; Schweinhart, Barnes & Weikart, 1993; Vandell, Henderson & Wilson, 1988; Wasik, Ramey, Bryant & Sparling, 1990).

Beardsley (1990) has graphically described what happens to children in child care settings which provide differences in quality. The main aim of this investigation was to provide a realistic account of children's experiences (from the child's point of view) for policy implementation. This account illustrates more than a checklist of measures for identifying indices of 'quality' in preschool provision. It considers the subtle nature of 'good quality practice', focusing on

characteristics which identify the 'processes' of quality interaction such as, the training qualification of teachers and improving conditions that promote professional standards. Beardsley explains that differences in program quality depend to a large extent on economics. It's not just a matter of providing better salaries for teachers and more staff per child, but also providing quality in terms of teacher training and selection of materials/apparatus in the environment. Professional trained staff and centres with high staffing ratios go hand-in-hand with quality centres which provide adequate space and well-thought out activities and materials. According to Beardsley, the 'dangers' which jeopardise quality practice lie, in part, with programmes which have designed facilities to 'look' high-quality (fresh paint, attractive toys) to the outside observer, but which are in fact low quality centres which have compensated teacher's salaries and qualifications for an attractive 'cover.' A key feature that seems to vary between programmes in terms of quality is when teachers 'know how to use' the space and materials provided. This feature tends to consistently show differential effects on children's behaviour and learning (Clarke-Stewart, 1988; Reifel, 1993; Schweinhart et al., 1993)

The quality of early childhood programmes can be assessed in many ways. According to Katz (1993b) what is needed is a multi-perspective view on quality assessment which she claims involves more than a mere checklist or single-perspective view on assessment. Important 'other' perspectives, should be considered, such as:

- (a) the **child's view** as he/she relates to the programme - the '*bottom-up perspective*,' where staff members are called upon to apply all their accumulated knowledge and experience appropriately in the preschool environment
- (b) an '*outside-inside perspective*,' meaning how **teachers and parents view** their relationship to each other. Are they respectful? open? tolerant? blaming? All would agree that shared parent/teacher "positive attitudes go a long ways in nurturing and guiding child-care practices." (Katz, 1993, p.7)
- (c) a '*inside perspective*' that examines **staff relationships** among themselves: are they supportive? co-operative? accepting and trusting? respectful? Preschool environments must be inviting, supportive and co-operative places for staff to work in. Good practice should provide a 'built-in barometer' that fosters quality relationships between staff and their environments.

- (d) a '*top-down perspective*' view which takes into account **characteristics of the preschool settings**, such as adult/child ratios, qualifications and stability of staff, the quantity and quality of space per child, the quantity and quality of materials, health regulations and characteristics of adult/child interactions and relationships.

Study of the literature indicates that the several features mentioned above from a multi-perspective view (assessment), do, in fact, serve as good indicators when predicting the effects of preschool provision (Bain & Barnett, 1980; Beardsley, 1990; Clark & Clark, 1976; Clarke-Stewart, 1988, 1989; Fiene, 1992; Harms & Clifford, 1980; Jowett & Sylva, 1986; Katz, 1993; Mayall & Petrie, 1983; Osborn & Milbank, 1987; Tizard et al., 1976a). Clearly, the issue of quality plays an important central role when considering the effectiveness of preschool provision on children's development.

There are no simple procedures for identifying and assessing quality in preschool settings. Depending on checklists, rating scales with 'global' index scores, interviews and observations are not enough, in themselves. Rather than a single measurement what is needed is a co-ordinated assessment procedure which uses measurements appropriately adapted to the given culture and considers the families served by the various types of preschool provision.

#### **1.1.5 Preschool Education: Historical Trends**

The development of preschool education can be traced back nearly 250 years. It was the early pioneers such as Rousseau, Froebel and Montessori who laid down the fundamental principles and ideas which would later direct our course of exploration and experimentation. They devised theories of preschool education and the methods for implementing them which would eventually bring about a change in the way the child was viewed. The child was no longer seen as an inept, underdeveloped adult, but rather as a unique individual. They stressed the importance of training the senses, respecting the needs and rights of the child (McMillan, 1911) and placed emphasis on the development of the whole child: the intellectual, social, emotional and physical growth processes. Preschool education was seen to provide a good start for children before they entered formal schooling. It was supported further by social and political changes which affected the status and quality of family life. With the



decline of families employed in agriculture, families crowded into the cities for jobs in factories and technology. Economic depressions and wars would also change dramatically the family structure and quality of life. Housewives became soldiers and employees and caretaking blossomed into an enterprise, offering a variety of statutory, voluntary and private provision for children under school age (Singer, 1992). Preschool education and care became a necessity and crossed all social and economic boundaries.

Further research findings in psychology and education changed our theoretical conceptions of intellectual development which stressed the importance of early experiences for the development of intelligence (Bloom, 1964; Hebb, Organization of Behaviour, 1949; Piaget, 1936, 1951). Piaget, whose work was to have an immense impact on understanding both the type and extent of learning that occurs in the early years, showed how the child's interactions with the environment were the basis upon which cognitive structures were formed and systematically organised. The rediscovered works of two Russian psychologists, Luria (1961) and Vygotsky (1962) directed our attention to the importance of language as a crucial factor in shaping development and in the child's ability to acquire, store and use concepts. Significant contributions to our understanding of the importance of language in development were also demonstrated in the works of Bernstein (1960, 1971) and Chomsky (1965).

The force of this psychological impetus shifted the emphasis in development towards the cognitive, and to a lesser extent, the social domains of early years development (Dewey, 1963; Kohlberg, 1987; Skinner, 1974; Thorndike, Thorndike & Hagen, 1977). The work of Bloom (1964) highlighted this focus with claims that the majority of growth in intelligence of the child occurred in the years before formal education began. There was also a growing concern for the consequences of impoverished environments which, in turn, formed the basis for the development of the compensatory preschool programmes. The assumption underlying compensatory education is that families under stress do not provide optimum learning conditions at home which result in underachievement at school. By providing programmes designed to compensate for this deficiency at home, compensatory programmes were seen as an 'inoculation against failure' thus, placing the disadvantaged child on an equal footing with peers from non-disadvantaged homes (Woodhead, 1985, p.133). In the 1970's preschool education was to have an additional role in the development of children - a compensatory role for those from disadvantaged homes.

Other research, based on John Bowlby's work argued that preschool care and education had negative psychological and emotional effects on the bonding relationship between the child and mother. Any separation between them was thought to lead to serious distress and harmful consequences (Ainsworth, 1973; Ainsworth & Bell, 1970; Ainsworth, Bell & Stayton, 1974; Ainsworth & Wittig, 1969; Belsky & Sternberg, 1978; Belsky, 1986, 1987, 1989; Bowlby, 1951, 1969, 1973; Bronfenbrenner, 1974). For nearly 50 years these ideas strongly influenced views about child development and family relationships (Ball, 1994; Singer, 1992). Current research has challenged these views with secure evidence to show the contrary - preschool education and care have no long-term debilitating effects on child development or the mother-child relationship (Andersson, 1989; Clark, 1988; Clarke-Stewart, 1980;1988; Jowett et al., 1986; McKey, Condelli, Ganson, Barrett, McConkey, Plantz, 1985; Schweinhart et al., 1993; Sylva, 1993; Zigler & Hall, 1988). This issue is further discussed in section 1.5 of this chapter.

Initial research on the effectiveness of preschool education in nurturing development was disappointing and unclear (Gray & Klaus, 1965; Tizard, 1975; Weikart, 1967; Woodhead, 1979; Zigler & Valentine, 1979). Some of the findings probed further into the processes of development (Clarke & Clarke, 1976; Hughes & Donaldson, 1979; Donaldson & McGarrigle, 1974) calling for the re-evaluation of the long-held beliefs held by eminent scholars, such as Piaget (Donaldson, 1978). Many believed that Piaget underestimated the intellectual and reasoning abilities of children. Where traditional nursery schools were once initially aimed at improving social and emotional development their new focus on education reflected curriculum ideas. Children were beginning to be seen for what they could do, not what they couldn't do (Donaldson, 1978). Early learning methods and practice made some fundamental changes, shifting the emphasis on active-learning practices and away from didactic approaches. This was due, in part, to research which focused on the multi-faceted aspects of play at centre-based facilities and home, i.e. types of play, conditions for play, child/adult interactions, its importance for language and social development, quality, and factors relating to the socio-economic/cultural/ethnic backgrounds (Bruner, 1980; Bruner, Jolly & Sylva, 1976; Clark, 1988; Davie, Hutt, Vincent & Mason, 1984; Hughes, 1983; Hughes & Donaldson, 1979; Hughes, Mayall, Moss, Perry, Petrie & Pinkert, 1980; Hughes & Grieves, 1988; Hutt, 1979; 1982; Hutt, Tyler, Hutt & Foy, 1988; Hutt, Tyler, Hutt, 1989; Pugh, 1981; Smith, 1980; Sylva, Roy & Painter, 1980; 1992; Tizard & Hughes, 1984; Tizard et al., 1976a; 1976b; 1988). Attention was drawn away from environments based on teacher-controlled approaches

and focused more on active child-learning practices (Bruce, 1987; Curtis, 1986; Jowett et al., 1986; Moyles, 1989; Sylva & Moore, 1985; Weikart, 1987). As a result, early years training for teachers moved more towards courses which are child-centred and experiential (Blatchford, Battle & Mays, 1982; Clark, 1987; Clement, Schweinhart, Barnett, Epstein & Weikart, 1984; Curtis, 1992; David, Curtis, Siraj-Blatchford, 1992; Ferri, Birchall, Gingall, Gipps, 1981; Pascal, 1993).

While longitudinal studies and surveys monitored conditions and improvement in statutory and private preschool intervention (Bruner, 1980; Garland & White, 1980; Mayal & Petrie, 1977; Pringle, Butler, Davie, 1966; Davie, Butler & Goldstein, 1972) evidence was shedding new light on the meaning of social class and disadvantage (Labov, 1969; Turner, 1977; Tizard, et al., 1976a; Zigler & Valentine, 1979). Initially, interventions aimed to correct early learning deficits due to disadvantaged backgrounds. New research indicated that 'deficits' were often due to cultural and ethnic differences, not disorders or delays. Cultural and social variants received prominent status as critical factors in the context of preschool education and development (Dunn, 1988; Richards & Light, 1986; Tizard & Hughes, 1984; Tizard, Blatchford, Burke, Farquhar & Plewis, 1988; Woodhead, Carr & Light, 1991).

In the US government lent federal support to several programmes associated with combating poverty and disadvantage (Bereiter & Engelman, 1966; Franklin & Biber, 1977; Kamii, 1972; Lavatelli, 1972; Weikart, 1971). The aims were to provide comprehensive health and child-care services for children of disadvantage before primary school age.

New impetus for preschool education came from well publicised results from the long-term studies on compensatory programmes (Lazar, Darlington, Murray, Royce & Snipper, 1982; Osborn & Milbank, 1987; Schweinhart & Weikart, 1980; Zigler & Valentine, 1979). Experimental studies showed decisive results with positive long-term benefits for children who received preschool education compared with control groups. New evidence showed preschool education to be cost-effective which meant that it was a sound, economic investment for society (Barnett & Escobar, 1990). The advantages that compensatory programmes gave to children were not necessarily higher intellectual gains (IQ scores) but rather, social life-functioning skills, e.g. getting a job, fewer criminal offences, fewer pregnancies, less divorce, more independence financially and socially, and better health records (Schweinhart et al., 1993). Furthermore, the results showed that there did in fact exist a set of criteria which focused on key

features in preschool education that would serve as a framework for preschool settings having high quality characteristics. These features have been previously mentioned in section 1.1.4.2.2.

Research trends in preschool education and care have changed considerably over the years and they continue to do so. These changes have been influenced by many factors: academic, social, political, economic, familial and cultural. Early research concentrated on whether preschool education and care was harmful for children. It was often carried out by comparing small samples of children in centre-based preschools with children at home using problematic methodologies and designs. Results were often inconclusive and unclear. Fact-finding research projects (surveys, small-scale non-experimental studies) examined several types of preschool educational and care practices with an emphasis on children 'at risk.' It has only been recently that sounder designed studies have provided the evidence that preschool attendance at settings which are high in quality is associated with measurable gains for children later in life. These long-term gains are not intellectually compartmentalised, but rather encompass a wide range of social-life-functioning skills and abilities. The successful outcomes in these studies are dependent on high quality programmes. It is argued that programmes of high quality:

- nurture progress in all domains of child development**
- predict developmental intellectual and social gains for children**
- build sustaining 'life skills'**
- and nourish family life**

## **1.2 The effects of preschool education on some aspects of development**

There have been numerous attempts to describe, categorise and evaluate preschool provision and its effectiveness. Historically, one of the first attempts to record the effects of preschool experience on the child was through the measurement of changes following preschool attendance. The beginning of such studies can be traced back to an investigation by Wooley (1925) and the literature covers nearly 70 years. Early research of this period focused

intensively on the question of whether preschool attendance could foster acceleration of mental growth as reflected in changes in intelligence test performances. Later research concerned itself with the effects of preschool attendance on the child's social and emotional adjustment, and motor development. Some studies concentrated on investigating several aspects of development.

Observations of preschool children in the first half of the century bore little resemblance to the statistically designed experiments of the 70's and 80's. Most simply wrote what they observed in a general descriptive way, noting details of play, 'work' on didactic apparatus, socialisation patterns, skills and feelings that children expressed in the environment. The groundwork and focus of interest was turned on the behaviour and interaction of the child, emphasising the first years of life as being crucial in terms of development for life.

The efforts and insight of early pioneers, like Montessori, McMillan and Isaacs are visible in our preschool environments today and their ideas are still a source of guidance and inspiration. For example, McMillan (1904) earnestly claimed that children had rights as individuals and they deserved respect. Nearly a century later aren't we describing 'salient features of quality' preschool education and care provision in terms of children's right to free choice, independence and respect? (Katz, 1993a; Moss & Melhuish, 1991). In terms of child-care policy, aren't we speaking on behalf of children's rights when we propose policy change that means providing quality child-care for all children, regardless of social and economic background? Active, independent child-centred programs which foster characteristics of trust and respect have been shown to be the effective indicators of quality provision that have long-lasting gains for children (Ball, 1994, Schweinhart et al., 1993; Sylva, 1993). Equally evident today are furnishings (child-size) and educationally-orientated environments whose origins can be traced to the didactic 'prepared environments' and methodology of Montessori (1936). These factors of preschool education and care continue to be effective indicators which predict measured developmental gains for children (Zigler & Styfco, 1993). Furthermore, early empirical observation and research which focused on early learning environments and the importance of parent involvement in Isaacs' work have provided insight into our views about the development of the 'whole child'. Again, research findings indicate that children gain developmentally, in programmes that feature management practices which promote active,

developmentally appropriate, learning environments and parents who are seriously involved.

The traditional approach to testing effectiveness of the preschool intervention was to measure quantitative outcomes often using psychometric measures - referred to as product testing. Later research would consider a more complete assessment of the effectiveness of intervention on children's development by including a more complete assessment of the whole child, not just the cognitive or linguistic effects. Researchers used observation of play and interaction to discover how the various aspects of preschool environment influenced the child through observations of play and interaction - referred to as process investigation.

### **1.3 Effects of preschool experience on cognitive development**

The idea of using education as preventive intervention to solve social problems has a long history which can be traced back to the work of Rousseau, Montessori, Pestalozzi and Robert Owen (Fowler, 1968). Early studies which showed the effects of deprived environments on child development, ranged from studies on maternal deprivation (Spitz, 1945) to studies on disadvantaged and poor environments (Sherman & Key, 1932) which affected decreased IQs and personality development.

#### **1.3.1 Early research**

Preschool evaluations attempting to demonstrate effectiveness on cognitive development used a conventional pre- and post-test paradigm. Many of the experiments and investigations on infant and preschool programmes, especially ones which focused on the need to counteract the effects of poverty and disadvantage, owe, in part, their impetus to the work of Piaget, Hebb (1947), Hunt (1961), and Bloom (1964). Piaget's work on intelligence (Hunt, also) suggested that intelligence was neither predetermined nor fixed by heredity (*Psychology of Intelligence*, 1963). Children's early intellectual status was determined a good predictor of later development (Bloom, 1964). Later studies appeared which demonstrated the effects of social class differences on achievement and intelligence (Labov, 1966; Stack, 1974). Lower class children had lower scores when compared with middle-class children before and at school entry. There was also evidence which indicated that lower class children did not improve over time once they were in the school system (Ausubel, 1964). As a result of the disadvantage found in these studies, it was believed that early education programmes would compensate for

environmental deficits, stimulate cognitive/linguistic abilities, and put disadvantaged children on an equal footing with children from the middle class.

In the US the political climate was ripe in the 1970's for acting upon these problems associated with poverty and disadvantage. Government lent federal support to a number of prevention/intervention programmes in early childhood development that included several university and community-based projects (Bereiter & Engelman, 1966; Franklin & Biber, 1977; Kamii, 1972; Lavatelli, 1972; Weikart, 1971). Probably the single most notable effort to combat the 'cycle of poverty' in the U.S. was the comprehensive child-care project, Head Start. Initially designed as a summer intervention programme, Head Start continued over two decades and served over eight million children (McKey et al., 1985). The overall aims of the programme were to foster, enhance and encourage social competence, self-confidence, curiosity and communication skills in children from low income families. There were also aims of improving children's health, physical well being and improve family attitudes.

Early evaluations using conventional pre/post test models placed an emphasis on the success of the programme by measuring cognitive tests/achievement test outcomes. At first the findings were promising, showing some improvement on cognitive tests for the Head Start children. Shortly thereafter, a study known as the *Westinghouse/Ohio State Study* (Westinghouse Learning Corp, 1969) found discouraging results. They concluded that there were no long-term gains of Head Start children on intelligence measures when compared to control groups because initial gains had washed-out. This led to critical reviews, responses and questions regarding the basis of the programme, its methodological procedures and the research instruments used. Many claimed the emphasis on cognitive measures was misleading and did not represent children's overall performance at preschool. Others claimed that the comparison groups were inadequately matched (Brown, 1978; Cole & Bruner, 1971; Horowitz & Paden, 1973; White, 1970); or the evaluation was premature and used as 'evidence' to legitimise cuts in public spending (Harmon & Hanley, 1979).

Ideas concerning the contribution of early years education to later life were in question. From the argument of opposing views, Clarke and Clarke (1976) put forward the perspective that the early years were not critical for the formation of intelligence and that even children seriously deprived could develop normal intelligence. Jensen (1969) argued that inequalities have a genetic basis and are therefore not open to modification by environmental interventions, thereby

raising the nature-nurture issue. Tizard concluded that the efforts to close the 'social gap in achievement. . . (were) . . . doomed to failure' (1975).

Controversy on issues of programme content, methodology, policy implications and the theoretical significance of preschool compensatory education continued. Social priorities and economic influences shifted attention from the debate on compensatory education to issues relating to increasing demands for child care, particularly for working mothers. Further studies from the US (Banta, 1968; Beller, Zimmie & Aiken, 1971; Bereiter & Engelmann, 1966; Deutsch, 1973; Gram, 1974; Weikart, 1967) and Britain (Clark & Cheyne, 1979; Clarke & Clarke, 1976; Smilansky, 1966, 1968; Smith & James, 1975; Tizard, 1975; Tizard, Moss & Perry, 1976; Woodhead, 1976) continued to report on immediate intellectual post-intervention gains with later wash-out effects. Some questioned whether the early IQ increases were due to actual increase in intelligence or whether it was the effects of debilitating motivation factors on the deprived child's level of performance (Zigler & Butterfield, 1968). The general consensus from these studies was that the initial IQ gains seen after compensatory programmes were mainly achieved through exposure to directive cognitive approaches and these gains were not supported by corresponding growth in other aspects of child development, e.g. self confidence, independence and initiative. In part, this was to explain why there were no self-sustaining long-term effects of the preschool intervention on intellectual growth. Other studies suggested the lack of carry-over support in the homes was responsible for the wash-out of short-term gains (McCandless, 1966; Skeels, 1966).

### **1.3.2 Research: Some short-term effects (1970's)**

Long before the noted *Plowden Report* appeared (DES, 1967) and the *Education White Paper* (DES, 1972), it was already evident to many that there were two (if not more) critical shortages concerning early years education and care in Britain. One was the need for increased quality preschool provision to meet the growing demands of mothers (married and single parents) entering the work force, and the other was the lack of information regarding the differential effects of the various types of provision on children's lives, both in care and education.

During the 70's, several studies focused on the effectiveness of various types of provision (home and centre-based studies) and some of the factors that influenced preschool education, i.e. staff training, qualifications, attitudes, play,



the theoretical and interactive use of language and communication, socio-economic background (children and adults), quality of facilities available, etc. A number of these studies are reviewed in Clark (1988), Clark and Cheyne (1979), Lamb, Sternberg, Hwang and Broberg (1992), Osborn and Milbank (1987), Smith and Connolly, (1980) Smith and James (1975), Tizard (1975) and Tizard et al. (1976).

At the time, Bowlby's theory of maternal deprivation was influencing research on preschool education. Early critics of the positive evidence on preschool and day-care effectiveness alleged that early care weakened the bond between mother and child, robbing the child of security and emotional attachment necessary for healthy development (Bowlby, 1951; Spitz, 1945; White, 1975). Burton White claimed that preschool care was bad for children and counselled women to stay home until their children were at least three years old. Other researchers agreed (Ainsworth, 1970; Brazelton, 1986). They saw the maternal deprivation theory as a partial, if not complete, foundation for fears regarding the adverse effects of mothers working outside the home. At the opposite end of the debate were the views held by Clarke-Stewart (1973), Gray and Klaus (1968; 1970), Golden (1978), and Rubenstein and Howes (1979) which stated that good preschool practice showed no appreciable ill effects on children and may actually be beneficial. By the late 70's, early 80's, research was beginning to show that children in preschool care were just as securely attached as children who stayed at home (Belsky & Steinberg, 1978; Kilmer, 1979; Rutter, 1981; Silverstein, 1981). Working mothers who felt good about themselves were reported to be better off than mothers who stayed at home (Hoffman, 1974, 1979). Contrary to the proponents of Bowlby's attachment theory, children were shown to be able to attach to the caregiver and would prefer their mothers only in times of stress (Andersson, 1989; Clarke-Stewart, 1980; 1982; Clement, Schweinhart, Barnett, Epstein & Weikart, 1984; Cummings, 1980; Farran & Ramey, 1977; McKey, Condelli, Ganson, Barrett, McConkey & Plantz, 1985; Ricciuti, 1976; Rutter, 1985; Zigler & Valentine, 1979). In short, research had failed to demonstrate any connection between day care and insecurely attached infant-mother relationships. Yet the controversy did not end there.

In the 1970's research reviews of the evidence on preschool effectiveness were equivocal (Bronfenbrenner, 1974; Blackstone, 1973; Tizard, 1975). At the time some felt that what was needed was remedial programmes that operated on a one-to-one basis with parents acting as participators, not observers (Bronfenbrenner, 1974). Conventional nursery/playgroup experience with/without special programmes was seen as making little or no significant

difference on intelligence and social development. Competency gains in cognitive development, characterised in different stages, were seen as short-lived due to the resilient and reversible nature of child development, itself (Clarke & Clarke, 1973; Kagan & Klein, 1973). In another direction were studies claiming that good preschool practice was a very definite way to help disadvantaged families and children. One experimental study, often referred to in the literature, was conducted in Belfast in 1977. It looked at a number of subsidised playgroups (48) for disadvantaged children, with the aim of assessing effects of attendance on the children's language and cognitive development (Turner, 1977). These playgroups were homogeneous in approach, staffing and population. Several important variables were considered in this study, e.g. aims of playgroup leaders; mother's aims in sending their children to playgroup; approach to artistic development; gender differences; family size and the child's place in the family. A subsample of twelve playgroups (120 children) matched with an equal number for a control group were selected to assess effects of attendance on language and cognitive development. There were significant differences between the groups, favouring playgroup attenders on listening, vocabulary and general reasoning ability measures when compared with non-playgroup attenders. Most would agree that the clarity of findings here were owed to the careful sampling and controls used in the design of this study.

Another study, carried out by Williams (Tizard, 1975) of the National Foundation for Educational Research, evaluated preschool programmes designed to reduce failure at the primary school level. The idea was that disadvantage in the home environment could be compensated with a preschool programme that stressed both language and perceptual training. A language intervention was applied on a treatment group (110 children) with varied times in enrolment prior to treatment. The control group (81 children) received no intervention and both groups were assessed at pre and post intervention on several cognitive outcome measures. Children in the intervention programme showed significant gains compared with control children on language (Illinois Test for Psycholinguistic Abilities and perceptual tasks). When children were tested again at a follow-up stage (7 years old) there were no significant differences between the groups. Similarly, there were no differences shown in personal, emotional or social adjustment measures between children who had received intervention and those without. Tizard, Moss and Perry (1976) concluded from this study and several others, that the overall evidence showed:

"ordinary nursery school experiences does not, in general results in increases in IQ or even in better educational progress in primary school. Children may settle into school more easily, but the effects 'wash out' rather rapidly. [Furthermore]. . . the effects of special programmes tend to fade as children get older unless they are persisted in." ( pp191-2)

#### 1.3.2.1 Some research on preschool effects on school entry

Another experimental study reported in *Studies in Preschool Education*, by Clark and Cheyne (1979) looked at the effects of preschooling on how well children performed later in primary school. For this study, approximately 200 children were divided into three groups: those who would not attend preschool, those attending for one year, and those having attended two years preschooling. The results showed that attendance had some positive effects on primary school performance, particularly for those children who had attended preschool the longest - two years. Children in attendance the longest had higher mean scores on several cognitive assessments (Draw-A-Person; Matching Line Drawings; Vocabulary; English; and memory and discrimination tests. These findings required further statistical comparisons because of the different patterns of attendance levels at different nursery schools.

This study provided some evidence that preschool education did have measurable effects on cognitive aspects of development, even if they were short-term. Several studies focused on important features in preschool education and care that were early indicators of later school success, i.e. language abilities, teacher training, child-centred approaches.

Heber, Garber, Harrington, Hoffman and Falender (1972) reported impressive findings due to a language intervention programme on children's language, social and school adjustment abilities. This study followed 40 Afro-American children (IQs less than 75) from infancy to primary school (six years). Half of the total group received an intensive seven hour per day educational programme which emphasised individualised language and perceptual skill training. Teacher ratios were high and environments were structured.

Vocational training and educational courses were offered for mothers in the experimental group. The other 20 children served as a control group and did not receive educational intervention nor vocational training for the mothers. The results on several outcome measures showed significant intellectual and social gains for children in the treatment group. Also, outcome measures in language and social development were significantly higher for the children in the programme than those without intervention. This experimental (quasi) study would provide further evidence that early learning environments that provide rich language intervention programmes can have marked effects on children's development.

Furthermore, several studies focused on the important role of parents and their influences on children's behaviour and performance at home and at school. The idea was to educate children and their primary caretakers. Many home intervention schemes were developed and investigated with the aim of improving children's well-being and performance by working with the family unit as a 'participator', not an outside observer (Armstrong & Brown, 1979; Bronfenbrenner, 1974; Gray & Klaus, 1970; Levenstein, 1972; Lombard, 1969; Poulton & James, 1975; Raven, 1980). Some of these home-intervention schemes will be discussed.

#### 1.3.2.2 Some research on preschool home intervention schemes

Preschool home-visiting schemes as a means of intervention were already well established by the 70's. They basically had two conceptual themes in common: education for prevention and parental participation. These themes provide the legitimization for the type of intervention home visiting entails. One study in Britain, the *West Riding Programme* followed a small group of working class children (N=20) five years after the experimental group received 18 months home tuition. Initial gains were found on several cognitive abilities. At five-year follow-up no measured differences were discernible, although mothers had more positive attitudes towards learning (Armstrong & Brown, 1979). Another study aimed to assess the effects of preschool programmes with and without parental involvement (Donachy, 1979). On a sample of 96 children, divided into four groups (those with/without nursery attendance and with/without parental involvement) a parent intervention programme was tested for effects. Significant gains were reported on IQ tests for both parent-programme groups, yet there were no significant findings regarding maternal attitudes over time. The author claims this was due to the short intervention time (six months).

Programme evaluation studies have shown that centre-based preschool coupled with home-visiting, parent involvement programmes produce greater effects on children than the strictly home-based programmes, but the greater differences in effects are often found between children in the home-based programmes and those with no programme at all. Often, though, as many researchers would point out, the impact of such findings, must be carefully weighed against the type of intervention offered, e.g. the length of the intervention, and who does the intervening (trained, professional/ paraprofessional staff). One well-known example is the demonstrated benefits owed to the HIPPY (*Home Intervention Preschool Programme for Young Children*) instigated by Lombard (1981). Clearly programmes offering co-ordinated partnerships with parents and families showed increased benefits for children in preschool settings and home (Armstrong, 1979; Lombard, 1969; Raven, 1980; Smith, 1980; Tizard et al., 1976; Van der Eyken, 1982). Later studies and reviews have shown the beneficial effects of parent involvement on children's cognitive development (Lazar et al., 1982; Pugh & De'Ath, 1989; Pugh, Alpin, De'Ath & Moxon, 1987; Van der Eyken, 1982; Wolfendale, 1989).

The influence of maternal behaviours and expectations on the child's performance at home and school also offered further understandings about children's behaviour and development (Ainsworth, Bell & Stayton, 1974; Bowlby, 1973; Rutter, 1970). Importantly, the ideas about 'deficit theory' concerning children living in poverty were being challenged. Evidence showed that poor children had strengths and skills which were unique to their families and cultures. They were not less intelligent or adept than children from more advantaged backgrounds. These children needed support and encouragement by preschool programmes that were sensitive to their needs (Labov, 1969). This was particularly true in light of the findings from research that focused on the early learning of communication skills and language (Bernstein, 1971; Bower, 1977; Chomsky, 1965; Halliday, 1975; Ninio & Bruner, 1978; Tough, 1977a). Some of this research was rooted in the early studies on infants in their first weeks of life (Trevanthen, 1979; Shaffer & Dunn, 1979; Stern, 1977) which emphasised turn-taking rules (Bruner, 1983; Olson, 1980), language codes (Bernstein, 1971) and early linguistic awareness (Cazden, 1974) to focus on the function of speech and not on its form. Bernstein's work (1971) showed that there were social class differences in the frequency and type of talk between mothers and their children. He described two linguistic codes, 'elaborated' and 'restricted'. These codes are regarded as functions of different social structures. Each code entails qualitatively different modes of self-regulation and levels of cognitive behaviour. On a subsample of 106 boys

(61 working class without grammar school and 45 middle-class from grammar school) Bernstein (1971) filmed and tape-recorded conversations in order to assess the frequency and type of talk in both groups. The results showed large class differences. The working class boys used longer phrase lengths, spent less time pausing and used shorter word lengths when compared with the middle class boys. The reasoning is that disadvantaged children have a difficult time in understanding the school language (elaborate code) because of the lack of use in the home.

Bruner (1983) described the problem as a deficiency in analytical competence, which didn't mean language acquisition but the use of language as a tool for thought, i.e. "processing a unique and predisposing set of language learning capacities that function with the aid given by an adult, namely the Language Acquisition Support System (LASS). It frames or structures the input of language and interaction to the child's own Language Acquisition Device (Chomsky, 1965) in a manner to make the system function" (p19). Others agreed (Hughes, Mayall, Moss, Perry, Petrie, Pinkerton, 1980; Tough, 1977b; Vygotsky, 1962) claiming that children come to school not with a lack of knowledge but with a different stock of knowledge and different cognitive skills. For example, in a comparative study, Tough found that there were differences in both linguistic structure and language functions of middle and working-class children. At seven years old, the working-class children were less explicit, yet produced long and complex utterances not unlike their middle-class counterparts. In other words, children from different social backgrounds used language equally as much yet for different purposes. Children from middle-class homes used language more for reasoning, predicting, projecting and imagining purposes when compared to children from working-class homes. Tough concluded that working-class children didn't have less ability but rather less practice at producing more elaborated talk and therefore they needed more verbal thinking skills. A systematic language intervention program was necessary for children of less advantage (Communication Skills on Early Childhood Project).

Other studies have shown that mothers from different social class backgrounds speak to their children differently. Davie, Hutt, Vincent and Mason (1984) found that mothers from middle-class households were more likely to give children 'instructions' when compared with mother of working-class households. Conversely, in another study that compared speech of children at home and at nursery school, the findings showed that it was the working-class children who were more likely to receive instructions from mothers (Tizard,

Carmichael, Hughes & Pinkerton, 1982). Middle-class children asked more questions and took part in more teacher/child conversations than working-class children. Speech differences for children from different social class backgrounds was minimal at home.

The influence from these studies began to change long-held ideas about 'teaching' language. There was a shift in approach from what the child didn't know to what the child did know (Donaldson, 1972; Donaldson & Balfour, 1968; Donaldson & McGarrigle, 1974). Donaldson argued that young children's cognitive and linguistic abilities were seen at their best in situations that involved 'intentions', 'motives' and 'purpose' - situations that make 'human sense.' Children were seen as capable of showing complex cognitive and linguistic abilities before seven years old (the egocentric period suggested by Piaget).

Some interest was also generated in studies which looked at forms of school organisation and child/teacher behaviours in preschool settings (Cashdan, 1979; Smith & Connolly, 1980). One extensive study by Smith & Connolly (1980) investigated two considerations in preschool settings: the free-play of children in relation to number of children in the group setting and resources available, and advantages and disadvantages of free play versus structured activities with effects of staff/child ratio emphasised. While the findings were extensive they showed that smaller groups of children engaged more in same-sex pairs while in larger groups. The amount of space per child and the play equipment were varied with main effects shown on choice of activities. Large spaces meant more running and chasing whereas in smaller areas children made more physical contact with one another. When two classrooms were matched with resources, researchers varied programme structure. One class received high staff interaction while the other free-play programme received minimal staff interaction. The results showed that the children interacted more with staff in structured programmes with longer periods spent on fewer activities when compared with children in the free-play programmes. Furthermore, when staffing ratios were varied (1:4 to 1:10) in the different settings, findings showed more child-to-child conversation, shorter conversations and more staff contact questions associated with lower staffing ratios. When staff were asked to rate the different classroom sizes in terms of how 'enjoyable', 'exhausting' and 'effective' they were, the findings showed a consistent tendency to rate larger classes as less enjoyable, less effective and significantly more exhausting. In sum, this study showed that structured programmes that provide adequate

space/ resources and good staffing ratios show significant, differential effects on children/staff behaviours.

Further studies would continue to show the short-term positive effects of preschool education on cognitive development (Beller, 1973; Golden, 1978; Gordon & Guinagh, 1978; Weikart, Bond, & McNeil, 1978). Later (in the early 80s) researchers argued that these studies focused only on good or high quality centres which meant there was little evidence of the impact on children of all kinds of early education (Gamble & Zigler, 1986; Kagan, Kearsley & Zelazo, 1980; Rutter, 1981; Vandell & Powers, 1983).

In general, the evidence from the 1970's offered inconclusive, equivocal results. Good effects had to be qualified and long-term effects showing lasting cognitive benefits had yet to be demonstrated.

### **1.3.3 Research and findings: Some short-term effects (1980 - the present)**

Many research studies and reviews have shown that high quality preschool programmes lead to benefits on cognitive measures of development (Berrueta-Clement, Schweinhart, Barnett & Epstein, 1984; Clark, 1988; Haskins, 1989; Hennessey, Martin, Moss & Melhuish, 1992; Hughes et al., 1980; Lazar et al., 1982; McKey et al., 1985; Ramey, Rutter, 1985; Yeates, & Short, 1984; Sylva, 1987; Woodhead, 1985; Zigler & Hall, 1988). Some studies have been intensive short-term studies while others were more extensive and aimed for long-term effects. Some of the short-term studies will be discussed.

Some short-term studies have shown that different types of preschool provision have different effects on children's behaviour, staff attitudes, and social interaction between adults and children (Andersson, 1989, 1992; Bruner, 1980; Lee, Brooks-Gunn & Schnur, 1988; Sylva, 1994; Sylva et al., 1980, 1985, 1993; Tizard et al., 1976a, 1976b; Zigler & Hall, 1988). One observational study (Jowett & Sylva, 1986) investigated two groups of children who had 'graduated' from different types of preschool provision: nursery class and playgroups. All children were observed for 120 hours with an interval between observation times of six months. Their aim was to test for relative preschool effects on entry into primary school. Children in the two groups were carefully matched and social background was controlled. The results showed that activities that required more challenge, concentration and goal-orientation were observed more in the nursery group than in the playgroup. They also found that children



from playgroups were more likely to seek teachers for help than for assistance for learning tasks than the nursery class children. In sum, they concluded that children from the nursery class tended to do better at entry to school than children from playgroup.

An earlier study by Sylva et al. (1980) in collaboration with the Oxford Preschool Research Project, observed 120 preschool children in three types of preschool settings - nursery schools, nursery classes and playgroups in Oxfordshire. This study observed conditions and behaviours within the three preschool settings. The findings from the time-sampled observations were at two levels: differences for the total sample and differences between children in the three different settings. For the total sample they found: (a) when children engaged in challenging tasks (3Rs, music, art, small scale construction, pretend) they concentrated longer (b) the highest proportion of challenging play occurred while in pairs (c) older children, in the company of an adult were more likely to engage in challenging tasks while younger children do so in pairs (d) the majority of talk is not conversation, but 'one-off' remarks (e) there is more talk in nursery classes when compared with nursery schools and playgroups. The measured and observed differences between groups were: (a) nursery school children engaged more in challenging tasks, talked more to adults, and played more with peers, while playgroup children showed the highest proportion of adult-led group activities, play at manipulation tasks and pretend. The findings also suggest that 'structured' programmes tend to promote cognitive challenge, encourage communication and therefore are more likely to lead to better performance at school entry.

These findings on the effects of different kinds of provision in different settings would come as no surprise to many, particularly findings from studies investigating child care in playgroup and nursery settings and children at home (Hutt, Tyler, Hutt & Foy, 1988; Tizard & Hughes, 1984). Some studies showed that playgroups with high staffing ratios offered the least amount of space for free play activity (Kagitcibasi, Sunar & Bekman, 1988; Osborn & Milbank, 1987; Smith & Connolly, 1980). These conditions were believed to be conducive for pretend play and non-adult-led activities (Davie et al., 1984), although Sylva found more adult-led activities given these same conditions at playgroup centres (1980). Smith and Connolly found children increase physical contacts with other children and adults when space is decreased. Setting space aside, it seems there is little voluntary adult involvement in children's play evidenced in several studies based on observational findings (Hutt et al., 1988; Tizard, Philips & Plewis, 1976b; Wood & Wood, 1983)

Another study from America by Lee, Schnur and Brooks-Gunn (1988) looked at differences between children attending Head Start programmes, children attending other preschools and children not attending preschool. Nineteen preschool centres were chosen with a sample of 969 children (46% enrolled in Head Start, 33% in no preschool, and 22% in other preschools). These researchers wanted to investigate the short-term effects of a Head Start intervention programme when compared with no preschool or another preschool programme. The effects were examined in two ways: by controlling social backgrounds and cognitive differences statistically, and including group mean differences without adjustment (ANCOVA). The results indicated significant differences for Afro-American children attending Head Start programmes when compared with children not attending any preschool on three cognitive measures, i.e. (Caldwell Preschool Inventory, Motor Inhibition Test and the Eight Block Toy Sort). For the other group of Head Start children (non-Afro-American) there was no differences on cognitive measures when compared with the no preschool group. When treatment children were compared with children in other preschools, they found significantly higher scores on cognitive tasks for the Head Start children. The Head Start programme had showed particular benefit for Afro-American children in the below average ability group when cognitive measures within groups (less disadvantaged with greater disadvantage) were compared. These findings are in line with earlier research which has shown that the *most* economically disadvantaged gain the most from Head Start programme (Bronfenbrenner, 1974; Zigler & Trickett, 1978; Zigler & Valentine, 1979; Zigler & Hall, 1988). Although Head Start programmes vary widely and research evidence is inconsistent, many studies demonstrate positive preschool effects on cognitive outcome measures for preschool attenders.

British research funded by the DHSS and DES at the National Children's Bureau examined the growing number of combined nursery centres. The aim of this new kind of provision was to provide preschool education and day-care under one roof. Ferri, Birchall, Gingell and Gipps (1981) did an evaluative study on children and adults in three settings: combined centres, nursery schools and day nurseries. Staffing, organisation and size of organisation varied considerably between preschool centres. Timed and recorded observations showed staff involvement to be the least at day nurseries, although staff demonstrated more affective behaviour. Day nurseries tended to lack conscious planning and structuring of activities around themes and teachers spent more time chatting amongst themselves when compared with

staff in combined nurseries and nursery schools. Children were assessed on development measures twice: shortly after entry and at year end. Pre-test scores showed that type of nursery (combined centre, day nursery or nursery school) was not significantly associated with outcome scores on many cognitive measures (English Picture Vocabulary Test; Boehme Test of Basic Concepts; The Circus Matching Test; Beery's Developmental Test of Visual Motor Integration). At pre-testing, significant effects were found for two factors, age and social class backgrounds. Employing an analysis of covariance on results at year end, the results showed no significant differences between preschool groups, although there was a tendency for children in the combined centres (full-time) to show greater improvement on the EPVT when compared with their counterparts in the day nurseries. It was suggested the findings may be inconclusive as the groups compared varied considerably (staff and organisation) and the comparison subgroups were small. Another limitation may have been that timed observations considered only free play periods. This would not provide a representative sample of what activities children were engaged in during the day-long experience.

Throughout the 80's, research continued to focus on the different ways language develops at home and in preschool settings. Donaldson, Grieve & Pratt (1983) point out that when children enter preschool they are already endowed with articulate and somewhat developed vocabularies and communication skills. Others would agree (Tizard & Hughes, 1984; Wells, 1985; Wood & Wood, 1983). Researchers began paying more attention to children's developing awareness of themselves and the contextual role of language at school and home, dispelling previous assumptions regarding the limited speech of children at home versus children at preschool (Donaldson et al, 1983; Olson, 1977; Tizard & Hughes, 1984). Findings showed that there was not only more talk at home but the context was richer than at preschool. This meant that ideas about preschool teaching with young children would need to be re-considered. For example, Wood and Wood (1983) when looking at teaching strategies used in conversation at school, found that teacher 'talk' did not necessarily stimulate understanding. Those that used 'high control' in conversation received the least amount of feedback from children. In other words, teachers were found to have 'talking styles' which mattered in adult/child talk. Further findings by Hughes and Grieve (1980) demonstrated that by gauging children's cognitive and linguistic abilities by simply questioning them was an insufficient means of assessment. They showed that children will try to make sense or find reason to even nonsensical questions. For example, children were asked bizarre questions, such as: "One

day there were two flies crawling up the wall which one got to the top first?" or "Is milk bigger than water?" Older children tended to respond more in terms of characteristics of the object, such as, "milk is bigger than water because it's creamier." Younger children tended to import context into the situation, for example when replying to "Is red heavier than yellow?" some replied "yes, because there's much more red than yellow" or "because there's water in it." It was shown that children, regardless of age, tend to justify their responses in terms of linguistic knowledge and/or 'extra linguistic' knowledge. Rarely do children say "I don't know" or ask for further clarification of meaning or information (Hughes & Grieve, 1980).

Another initiative which began in the 80's in Britain was the High/Scope Programme, a curriculum successfully used in the US (*The Perry Preschool Project*, Schweinhart et al., 1978). Teacher-training in the High/Scope curriculum and methods began in Britain during 1985-86 with the co-operation from VOLCUF. An independent research team investigated the effectiveness and appropriateness of the High/Scope training and curriculum in different types of preschool centres (Sylva, Smith & Moore, 1985, *Monitoring the High/Scope Training Programme*). This research used two techniques to monitor and assess the programme: a teacher questionnaire (60 trainees and staff) and time-sampled observations of before and after intervention (100 children in five centres: 50 observed before intervention and 50 after). The treatment effects were: increased adult-child conversations, more adult involvement with children's play, and an increased manipulative and gross motor play for the children in the High/Scope programme. The authors contend that there was an important change in teacher attitudes and behaviours as a result of the intervention, i.e. from a directed approach to a supporting role. Critics claim the study with its small initial samples, could not render conclusive, decisive evidence. Other reservations would voice concern about the program, itself. Some felt it was too structured, not allowing enough time for imagination and creative development (Bruce, 1986). The other concern was whether it was making too many demands on parents (expecting them to participate and allowing time for them to air their views and ideas) some of which are mentioned in a further investigation, i.e. *The Impact of the U.K. National Curriculum on Preschool Practice: Some 'Top-Down' Processes at Work*, Sylva et al., 1989). Most of these concerns were addressed in follow-up studies and reviews of the programmes (Blackwell, 1990; Moore & Smith, 1987; Sylva, 1987).

Other studies show there is an effective 'developmentally appropriate' practice (DAP) which has a broad conceptual framework for defining early childhood education (Bredekamp, 1987; Whitebook, Howes & Phillips, 1989; Reifel, 1993; Charlesworth, Hart, Burts & DeWolf, 1993). It relies on contributions from child development and psychology and encompasses issues of gender, politics, culture and history when describing the efficacy of its practice. The guidelines for the DAP are specified in the National Association For the Education of Young Children (NAEYC) guidelines for child-care practice (Bredekamp, 1987). Many studies have reported beneficial effects of DAP on several children's outcome measures, i.e. scholastic abilities, social competence, motivation and aspects of behaviour.

One recent study by Kontos and Dunn (1993) investigated the effects of two types of programmes (didactic vs child-centred [DAP]) on children's academic abilities, perceived competence, adult dependency and motivation. The didactic programmes placed a high level of emphasis on academics and the child-centred programmes focused on the 'social climate' of the surroundings (dichotomised in previous study, Stipek, Daniels, Galluzzo & Milburn, 1992). Children (N=227) from 14 child-centred and 18 didactic-oriented programmes were assessed on a battery of achievement tests and activities that measured basic skills, expectations for success, enjoyment in school, anxiety, pride in accomplishments and dependency (need for approval from adult). The children at didactic programmes scored significantly higher on letters and reading achievement tests than children in the DAP child-centred programmes. On measured findings for children's preference for challenging and academic tasks, the child-centred group scored significantly higher. They were also less likely to ask for permission or approval and they worried less than the children in the didactic group. While the findings support benefits for the child-centred programme, Stipek warns that structured programmes which provide low motivational factors such as, dependency, anxiety, lower perceptions of competencies and pride may have long-term effects which inhibit learning. While there is evidence to support Stipek's claim on the advantages of child-centred practices over more adult-directed, didactic ones, it is difficult to decipher in this study which children in the two types of programmes were 'poor' and which were from 'middle-class' backgrounds. The information given describes 14 programmes served by poor children and 18 programmes served by children from middle-class households. It is not clear how many children (by social class) in each of these groups received 'didactic' and 'child-centred' programmes. Therefore, it is difficult to rule out the possibility of interactive class effects on outcomes.

According to Bredekamp (1987) the DAP is more a philosophy which intends to provide a framework for instruction - it focuses more on 'how' to teach than on 'what' to teach. It is not a curriculum, per se, nor is it a particular set of expectations. The content of the programme is used in the examples of appropriate and inappropriate practices with a major emphasis on 'how' to provide appropriate instruction. The two key dimensions of DAP are *age appropriateness* and *individual appropriateness*. Development appropriateness is applied to four components of early childhood programs (curriculum, adult-child interaction, relations between home and program, and evaluation ) which serve to 'match' the level of growth and change that occur in children (age appropriateness) and the individual abilities (individual appropriateness). Examples of these appropriately 'matched' activities and tasks are provided in the NAEYC (1991) guidelines.

#### 1.3.3.1 Surveys

In the 80's, there were numerous findings from surveys and studies launched in the 70's, which were targeted on conditions prevailing in different types of preschool provision/care for under fives (day care, childminding, combined nursery centres). Some were commissioned by state and local authorities, others by private foundations. One investigation by Bain and Barnett (1975-78, reported in 1980) showed disillusion at the conditions found in day nurseries in Britain. At the time, it was thought that day nurseries offered decent quality care to children in need of provision. The findings showed that an appalling number of children in the sample were either emotionally or behaviourally disturbed; below average in intelligence; had language difficulties; and were unwanted by their mothers. In one part of this study twenty children (10 with greater exposure to day nursery care and 10 with minimal exposure) were compared on observed levels of aggression. They found some relationship between the longer periods in day nursery care and aggressive behaviour, although the evidence was not conclusive.

Gamble and Zigler (1988) and Clarke-Stewart (1982) found similar, yet less appalling results in their investigation of day-care in America, i.e. unqualified staff; poor quality provision; awkward hours and conditions for working mothers, and so on. These findings fuelled the debate concerning poor conditions associated with infant day-care provision and their effects on children's intellectual, social and emotional well being (Belsky, 1988; Clarke-Stewart, 1988; Moss & Melhuish, 1991; Richters & Zahn-Waxler, 1988). Belsky

concluded from several studies that extensive infant day care experience is associated with insecure attachment during infancy and heightened aggressiveness and noncompliance during the preschool and early school-age years. More specifically, he concluded that some non-maternal care arrangement in the first year for more than 20 hours per week may be a risk factor in children's development. He based his conclusions on a collection of combined studies (only ones which showed significant effects) which observed differences between infants (mostly Afro-American children) whose mothers worked full-time when compared to infants whose mothers did not work full-time. Mothers and children were assessed by the procedure drawn from Ainsworth's, the *Strange Situation*. (Ainsworth et al., 1978). According to Belsky, children with full-time working mothers are vulnerable to repeated, disrupted attachments that lead to anger/aggression and even feelings of rejection (Barglow, Vaughn & Molitor, 1987). Opposing this view, Clarke-Stewart argues that the instrument used in these studies (the Strange Situation) may not be sensitive enough to reflect emotional insecurity in children and that differences, in themselves, do not indicate varying degrees of emotional insecurity. Clarke-Stewart believes that less attention should be focused on the harmful effects of day-care and more attention should focus on creating optimal quality conditions for infants in programmes (1988).

By the mid-eighties it had become evident that there was an increasing number of children in Britain attending day nurseries who were being referred by social services personnel (75% referral, Van der Eyken, 1984). There were also significant increases in the number of younger children, ethnic minorities, children with physical and behavioural disabilities, and parent involvement. While the *1980 Education Act* saw the introduction of experienced qualified teachers and better staffing ratios in day nurseries, it also meant further strains and demands upon day nursery staff. Several studies cited day nursery staff as feeling threatened by teachers, assessing procedures, administrative work, and lack of training when caring for physically and emotionally handicapped children (David, 1990). As the nature and composition of the population served by day-care provision changed, so did the demands made upon caregivers. This created a host of new questions which would centre around the need to re-define teacher training for all types of provision including the changing role of parents (Curtis, 1992; David et al, 1992; Pascal & Bertram, 1993; Watt, 1990; Watt & Flett, 1985) and the actual orientation of some types of provision. Watt (1990) claims that teachers and caregivers should be seen as professionals. She explains there are two dimensions to teacher professionalism:

knowledge/practice and power/control. The larger variation between differences in teacher's professionalism lie in the 'practice' component. According to Watt 'being' professional is one thing - and a 'professional partnership' is quite another. The key to cooperative professional practice is when all workers and parents value their own expert roles. The different skills and contributions should not compete with one another, but rather complement each other. The knowledge and practice relevant to teacher professionalism at the early years level draws upon intuition, inter-personal skills, common sense and professional training. Often these characteristics are in conflict with teachers and caregivers who place emphasis according to personal values and perspectives. Knowledge and practice is also associated with the partnerships with parents, i.e. knowledge about families' lives and skills in translating that knowledge into a working partnership with parents. What must be avoided is power and control which create 'intellectual holes' in practice whereby efficiency overrides purpose and conviction.

During the 1980's features that defined characteristics of quality in child care were beginning to emerge. One U.S. study (*National Child Care Staffing Study*) documented many of the problems associated with low-quality care. Most preschool centres were described as 'barely adequate' (Whitebrook, Howes, Phillips, 1989). Scarr (1984) claimed the problems were a result of day care's long association with welfare and poverty and the low status of women who work with children (Katz, 1993a). Most have agreed that the problems associated with poor quality care were due to public policy, i.e. lack of licensing regulations and the government's will of commitment to protect and educate their young. Whichever way one chooses to argue, there continues to be a growing concern regarding quality care, particularly for families who are unable to pay for better services (Beardsley, 1990).

Another revealing finding from the surveys conducted in the 1970's (reported in the 80's) was the fact that children of working mothers, particularly those with children under two years of age, were not being served by day nurseries as was previously assumed (Moss, 1988; Pugh, 1988). In the 70's, Mayall and Petrie at the Thomas Coram Research Unit investigated the quality of childminding services in London (1977). They focused on 27 children (two years old) attending 39 registered minders in four London boroughs. The housing conditions and the training of these minders were considered 'better than average' i.e. three-fifths had some training (discussion groups, registered minders meetings, drop-in training with playgroups) and one-third had some experience and training to work with children. Children were observed at the



minders and at home by timed observational methods. The findings from this investigation were disturbing. Forty per cent of minders cared for more than the recommended number of children allowed per household and several childminded because they were depressed or needed money. For many children, there was a lack of toys to play with and minders rarely initiated interaction with the children outside of basic physical needs (toileting, eating) or settling disputes. The quality of care could not be described as 'maternal' meaning a warm, intimate relationship between minder and child. The picture one gets from this study of childminding practice is a depressing one, as it authors describe, "this study is of sad, passive children, of anxious harassed mothers and hard-pressed minders insensitive to children's needs and distrustful of the mothers - who, in turn are resentful of the minders" (Mayall & Petrie, 1977 p11). When children were assessed on the Reynell Language Development Scales, the results showed that most children scored below their age level on the test (seven children had 1.5 sd below norms). The implication of these results suggest that the children in childminding services were often receiving care at inadequate, sometimes, impoverished environments. By contrast, children observed at home, received more physical and verbal contact.

Bryant, Harris & Newton (1980) also, carried out an investigation with children under and over two years of age using childminding services. They looked at the users of childminders and the quality of care in Oxfordshire. Minders were found to be older, married for a longer time than mothers, less educated and from a lower social class than the mothers they served. The majority of families using childminding saw it as an extended day care service, as most children went to playgroups or nursery school/class in the mornings (Bryant, Harris & Newton, 1980). Findings based on observations of minders' and children's behaviour showed differences in minders' attitude and approach to children with different personality types (described as, 'quiet', 'mixed', 'lively'). Children at minders sometimes were withdrawn and passive while away from home. It could not be established in this study whether these preschool types were causally related to childminder attitudes because of the small sample size and the variation of ages and backgrounds of the children.

According to Davie (1986), few comprehensive studies have thoroughly investigated the practice of childminding. Davie's study (1986) showed that childminders served families most in need of extended day-care. More than half of the mothers using minders were employed, and minders and mothers alike, were mainly working-class. Davie assessed differences in children's

behaviour at home and at the minders by observation, with a particular emphasis placed on speech interaction between the child and minder, and the child and mother at home. The results showed that minders tend to initiate more speech than mothers to children, with more questions and demands asked by children at home. Children were also observed to be less confident and assertive at minders than at home which coincides with previous findings (Bryant et al., 1980; Mayal & Petrie, 1983). According to Davie (An Investigation into Childminding, 1986) children's reserve at minders may not be atypical to the situation of childminding. She concludes that children's behaviour at childminders may be inhibited, yet not damaging. It is quite normal, considering that children behave differently around different people in different surroundings. According to Wells (1983; 1985), a similar situation exists at preschool which is beneficial in that it introduces the child to ways of acquiring resources of their language and how to use these in order to achieve a variety of purposes in relation to different people in different situation, i.e. new ways of acquiring and utilising knowledge. The positive findings from this research suggest that children in childminding-extended-day-care (in Staffordshire, England) received beneficial experiences from childminders which fostered continuity of care after school and preparation for Infant school.

In Britain, two recent studies have investigated the effects of early learning at preschool on children's educational performance at the age of seven. The National Foundation for Education Research Consortium (1992) in a national survey of Standard Assessment Tasks (SAT's) showed that children who attended many types of preschool provisions did not do better than non-preschool attenders. However, a study by Shorrocks, Daniels, Frobisher, Nelson, Waterson & Bell (1992) showed that preschool attendance was associated with higher performance measures on several cognitive measures, e.g. English performance skills, mathematics (shapes and using numbers), and science scores (processes of life). The latter study controlled for social class while the former did not.

The review of the research so far has shown significant short-terms effects of preschool education on cognitive development. Factors associated with high quality provision have also been discussed in several studies. Some have shown to be significantly related while others have provided further descriptive information and explanation. It is only when preschool provision is of high quality and research designs are controlled methodologically that the benefits have been shown to last.

#### 1.3.4 Research: Some long-term effects

There are several current reviews in the research literature which have discussed the evidence of the long-term benefits of preschool education on cognitive development (Ball, 1994; Clark, 1988; Lazar et al., 1982; McKey et al., 1985; Pugh, 1992; Schweinhart et al., 1993; Sylva, 1990, 1993; Zigler & Styfco, 1993).

The following discussion looks at some of the studies which have demonstrated long-term effects of preschool attendance on cognitive development. The children in a number of these studies came from various backgrounds - some deprived, some less deprived than others, and some without deprivation. Many of these studies measured other outcomes in addition to cognitive ones, such as, social, emotional and physical. In some cases, the aim was to provide an assessment of the 'whole' child which measured several aspects of development. Others aimed to emphasise a particular area to measure outcomes in child development. Where studies concentrated on measuring several outcomes there has often been some overlap of findings in the areas of development assessed. Results were often unclear and inconclusive, as will be shown in the following discussion.

##### 1.3.4.1 The Consortium for Longitudinal Studies (US)

A major source of evidence from the USA on long-term effects of preschool intervention came from a consortium formed in 1975 which looked at eleven early education studies that were centre-based, home-based and centre/home-based programmes with samples of children from low income and disadvantaged backgrounds. *The Consortium for Longitudinal Studies* (Lazar et al., 1982) aimed at a general assessment of long-term effectiveness of early education across different compensatory programmes in America. The meticulous meta-analysis of this study spans over data collected in three waves over 19 years on a sample of 2000 disadvantaged children (mostly Afro-American - 90%). Quasi-experimental and 'nearly randomised' designs were used to assess overall effectiveness of early education and care programs on children's IQ outcomes, achievement tests and 'success in school.' Non-cognitive goals such as achievement motivation, facilitating school adjustment and enhancing children's self-esteem were hypothesised to be more evident in programme children. Differential effects of the programmes investigated family background variables and 'subgroups' of children, i.e. brightest/less bright to

benefit the most; girls/boys. The aim was to assess not just the cognitive effects on preschoolers but also some affective and family outcomes. The meta-analysis considered data in each independent study separately and then pooled the results allowing for an 'average' effectiveness of several programmes. The findings were robust supporting lasting benefits from early education programmes. Children attending preschool programmes were less likely to fail and need special education than the control groups (non-preschool attenders). By third grade, the 'pooled' results showed that preschool children significantly outperformed their counterparts on both maths and reading tests yet at grades 4 and 5, only maths were significant. Longer lasting effects were found on reading, language, and arithmetic scores for children in two programmes (the Mother-Child-Home Programme, Levenstein, O'Hara & Madden; and the Perry Preschool Project, Schweinhart & Weikart). IQ gains for preschool children were also reported by the consortium for several years after the programme yet these gains were not evident at the 19-year final follow-up of the study.

Children's attitudes and values were also addressed in this study. Children having attended preschool gave more achievement related reasons for being proud of themselves when compared to the control groups. They were more positive about school and more likely to consider going to college than were the control group children. Their mothers' satisfaction was measured and showed significantly more mothers in the preschool group were satisfied with their children's performance than the controls. In general, the results indicated that preschool programmes offering a variety of approaches incorporated into a high quality framework, (well trained staff, cognitive framework; good staff/child ratio; some form of parent involvement) are effective for children of low-income (Lazar et al., 1982). This study provided a new impetus into the investigation of structured programmes and the means for identifying and assessing 'quality' in preschool environments. As Woodhead said in his review of the project:

“....long term effects data provides for the first time substantial scientific evidence that preschool education can be an effective form of intervention in disadvantage, effective not just in the short-term enhancement of abilities, but in the long term determination of the life course.”  
(1985, p.150)

Several studies assessed by Lazar et al. (1980) and others continued to be monitored and assessed for long-term preschool effects. The evidence showed that good programmes for young children living in poverty produce significant long-term benefits: (*The Carolina Early Intervention Project*; Ramey, Bryant,

Campbell, Sparling & Wasik (1988); *The Early Training Project*, Gray, Ramsey & Klaus (1982); *The Harlem Study*, Palmer, (1983); *The Milwaukee Project*, Garber, (1988); *The Mother-Child Home Programme*, Levenstein, O'Hara, & Madden (1983); *The Rome High Scope Programme*, Monroe and McDonald (1981); *The Syracuse University Family Development Research Programme*, *The Chicago Child-Parent Centre Programmes*, Fuerst & Fuerst (1993); *Project Hope Home-Orientated Preschool Education*, Gotts, (1989); *Houston Parent Child Development Centre*, Johnson (1988); *New York State Pre-kindergarten Programme*, Irvine, (1982). All these programmes examined for long-term effectiveness served children in poverty and at risk. Children remained in these programmes for a least one year, entering between 0-5 years old. Most studies were able to follow up at least 70% of their original participants. All the studies that collected data on intellectual performance found significantly higher test scores for programme participants when compared to controls. Although some evaluations have found that most effects tend to fade away (McKey et al., 1985) there is no evidence of fade-out effects on children's special education placement, high school graduation or delinquency (Schweinhart et al., 1993). The fade-out evidence is mixed for effects on children's socio-emotional behaviours and school achievement scores.

Collectively, these American studies make a strong case for demonstrating the long-term effects of high quality preschool education because their research designs were often rigorous, experimental methods with randomly assigned samples. They also employed a variety of outcome measures on children over a long period of time (until adulthood). These strong experimental research features have allowed these researchers to make affirmative claims that preschool experiences actually caused positive and lasting outcomes (Sylva, 1994).

The following project included in the Lazar et al. meta-analysis has continued to provide impressive findings on preschool effectiveness and will be discussed in some detail.

#### 1.3.4.2 The High/Scope, Perry Preschool Project (US)

The *High/Scope Perry Preschool Project* (Schweinhart et al., 1993; Weikart, 1987) has been meticulously evaluated for over thirty years, showing good results. Its exceptionally high quality curriculum, complex training scheme for staff and 'sound parent participation' programme have provided exemplary features in programmes designed of 'high quality.' The curriculum is one which

calls for 'developmentally-appropriate', child-initiated learning activities that provide children with opportunities for exploration, planning activities and carrying on conversations with adults. Teachers play an active role in planning, discussing, learning and interacting with children in supportive ways. They provide specific adult-child dialogue that guides children towards the outer bounds of their potential. Conversation and dialogue centre around 57 preschool 'key experiences' which fall into ten major learning areas. These key experiences are neither content-oriented nor goal-oriented, but "naturally occurring" and of great interest to children (Weikart, 1994). They rely on and enhance the conceptual and physical abilities of the child. One example is described in a 'language' key experience which elicits description of objects, events and relations from the child. A further 'classification' key experience investigates and describes the attributes of things. The goal of these experiences is for the child to engage in the 'process' of these functions.

In 1980 a follow-up study, compared three groups of 15 year olds, all having experienced one of three different preschool programmes: High/Scope, language-focused, and child-centred nursery. Although the assessment at 15 years did not provide a cost-benefit analysis there were significant findings found for non-psychometric measures, such as children's commitment to schooling ( $p < .02$ ), higher aspirations for college ( $p < .07$ ), greater willingness to talk to parents ( $p < .004$ ), spent more time on homework ( $p < .04$ ) and had a higher self-rating of school ability than the control group. Achievement test scores showed improvement for children who attended preschools and greater persistence in carrying out academic tasks.

The follow-up study in 1993, which assessed the original sample of children (randomly assigned to treatment:  $N=123$ ) at 27 years, measured a number of outcomes, similar to those used in the 1987 study. The results showed continued significant benefits for the High/Scope 'pre-school graduate'. The treatment effects showed higher high school grades, higher monthly earnings, higher level of schooling completed (71% vs 54% completing 12th grade or higher), a lower percentage receiving welfare (59% vs 80%), and fewer arrests. The cost benefit-analysis showed an increase in good value for investment - "\$7.16 returned for every one dollar invested" (Schweinhart et al., 1993). From the results, most researchers have agreed that the success of the findings from the original study and its subsequent results are due to a strong experimental design - subjects were randomly assigned at entry into the programme and there were no statistically significant differences on background characteristics. These researchers claim they have shown a cause-effect relationship between

preschool education and the benefits to children and society, both monetarily and educationally (Schweinhart et al., 1993).

#### 1.3.4.3 The Head Start Synthesis Project (U.S.)

Another study, known as the *Head Start Synthesis Project* (McKey et al., 1985) published the results from a combined meta-analysis of 210 studies that evaluated Head Start programmes (The Administration for Children, Youth and Families (ACYF), US Department of Health and Human Services). This project used a meta-analysis statistical procedure in order to convert collected findings into 'effect sizes' to make comparisons between groups (treatment/control) on children's performance. The results indicated immediate short-term cognitive gains for the participants in Head Start programmes when compared to control groups. Particular advantage was found for those programmes that were sponsored by Community Action Agencies and provided highly-structured academic environments on a full day basis (6-8 hours daily). Immediate gains in self esteem, achievement motivation and social behaviour after the first year in the programme were also shown. These initial gains were not long-lasting and in time differences on cognitive and social measure were negligible between children who had attended Head Start programmes and those in the control groups. In other words, the washed-out effects (for cognitive and some social measures) of earlier Head Start evaluations were found once again in this research. There was some evidence that higher achievement motivation was related to school entry age and children were less likely to fail a grade or need special education classes. Since these children were much younger at assessment time (8-9 years) than those in Weikart's study (19 years & 27 years) it is difficult to know whether or not there are 'sleeping effects' that will show later in development. One clear finding is that Head Start children were in better health, needed less medical attention, and were physically more fit than the control group children - a worthy and significant finding considering the poverty and disadvantage that most of these children and families experience in their home lives.

Many conclusions and findings could not be drawn from this study because the studies varied considerably at pre-intervention, i.e. there are many types of Head Start programmes and quality varies across America. Also, children sampled came from backgrounds of different levels of disadvantage (Woodhead, 1985). This concern has been previously discussed by Bronfenbrenner (1974) who points out that disadvantage can mean something quite different in terms of actual IQ scores. Often there are considerable mean

differences between groups equally identified as 'disadvantaged' - one is clearly more disadvantaged than the other. Several studies showed that children from the 'most' disadvantaged backgrounds often were affected more by preschool treatments (Schweinhart et al., 1993).

McKey and his colleagues agree that there are shortcomings on their evaluation of Head Start. Where short-term gains have washed out, they suggest that there may be 'sleeper effects' and have cautioned to take a 'wait and see' approach. Critics remain unconvinced that long-term gains for the disadvantaged few are really the result of a years' (or two years) worth of preschool education and care and there are serious questions about the quality of Head Start programmes.

In Britain, findings demonstrating long-term effects of preschool intervention/compensatory education from the States were received with mixed regard. Some clearly pointed to the many contrasts between educational preschools in the US and Britain, such as those measures of grade retention and the dubious role of special education (Woodhead, 1985). Others, not expecting to see a lower age for children entering school, questioned this premise at the time for the need for preschool preparedness (Clark, 1987).

One early longitudinal survey/study that began in 1958 followed a cohort of nearly 11000 children from birth to seven years old (The National Child Development Study). This national survey studied a wide array of conditions pertaining to children's backgrounds, family characteristics and surroundings, medical histories of participants, and a variety of children's outcome measures (perceptual, motor, reading, social adjustment, intellectual maturity, arithmetic skills and word recognition). The aims were: to study the educational, behavioural, emotional, social and physical development on a large group of British children; to determine some factors at birth which place children at risk; to identify and follow the progress of handicapped and programmes offered for them; and to identify special interest groups. The results were informative and extensive and showed marked sex and social class differences in behaviour and social adjustment to school. These findings are well reviewed in two published reports, *11000 Seven-Year-Olds* by Pringle, Butler and Davie (1966), and *From Birth to Seven* by Davie, Butler and Goldstein (1972). One important result from this study showed that children who entered reception class before the statutory age (five years) 'were more advanced educationally and better adjusted in school [primary] than those who commenced . . . after the age of five, irrespective of the socio-economic status of their families' (Davie et al., 1972, p.





24). These early findings suggested that children who attended preschool longer showed better adjustment scores at school entry when compared with children in attendance for shorter periods of time. These results were later confirmed with findings from further research studies carried out in Sweden and America (Andersson, 1989; 1992; Clark, (Ed.), 1988; Weikart, 1987). While causal effects were not studied in this national survey, the findings provided descriptive and valuable information for future studies which did test for causal relationships associated with preschool effects and outcome measures on children's development.

Several of these studies looked at long-term preschool effects and they are discussed in several reviews (Ball, 1994; Clark, 1988; Meisels & Shonkoff, 1990; Osborn & Milbank, 1987; Rutter, 1983; 1985; Sylva, 1987, 1990, 1993, 1994; Woodhead, 1985; Woodhead, Carr & Light, 1991).

#### 1.3.4.4 The Child Health and Education Study (Britain) and further studies

To date, one of the most extensive investigations into the long-lasting effects of preschool education on aspects of child development in the UK has been the national survey and cohort study conducted by Osborn & Milbank (1975-78). Its aims were twofold: to complete a census of all preschool institutions in Britain, showing the different types of educational and day care facilities for under-fives; and secondly, to follow a longitudinal cohort of over 13,000 children born during one week in April, 1970, at two intervals - children at five years and ten year olds. The investigation was to study whether particular types of preschool settings had differential effects on children's cognitive and behavioural development (Osborn & Milbank, 1987). Nearly 17,000 preschool institutions took part in the survey. The different types of provision varied considerably on several factors relating to the facility: accommodation, operating hours, attendance schedules, size of institution, staffing, qualifications and ratio, and geographic location (low-income, above-average incomes, and rural town). Other factors relating to the social composition were also considered, i.e. proportion of minorities, proportion of children identified as living in difficult homes, proportion referred to institutions by social workers, and children with problems (health, behaviour, developmental, handicap, little or no English). Several cognitive and social outcomes were assessed on an adjusted sample of 9,132 children at two intervals: five and ten years. The differential effects showed that children from day nurseries and LEA nursery classes received the

lowest scores on all tests at both intervals while children in home playgroups had higher scores on most of the cognitive outcomes. Overall, the results indicated that children who attended preschool institutions achieved higher test scores at the five and ten-year intervals when compared with children who had no preschool experience (1984). Yet the findings on outcomes between groups did not warrant any *causal* relationships, as such because several background variables (type of neighbourhood, family size, type of family) were not initially fully controlled for at study entry nor were their baseline scores collected. The 'most' disadvantaged children were more likely to receive state funded preschool provision and they were more likely to be in the maintained sector. Other cited shortcomings of this study suggested that sample sizes were small at the ten-year interval in certain provisions and testing at the 5-year interval had actually occurred after preschooling. The attempt to control for any initial differences in backgrounds was done by using post-hoc statistical procedures (Clark, 1988; Sylva, 1993). Several potential families were also lost in the sample because mothers could neither recall nor accurately report the type of previous preschool provision that their children attended (nearly 3000, almost equal in size to the non-preschool sample). There was also little or no mention made of what occurred in between testing from the five to the ten-year interval, e.g. different schooling? The authors of this study have cautioned against the generalisation of their findings, largely due to its sample size and design. In some respects there were 'methodological lessons' to be learned from such a large study on differential effects of preschool experience. Future studies on effectiveness would more carefully define their parameters and work harder at controlling extraneous variables in design through collecting baseline data.

At the time, there were also concerns centred around preschool provision that focused on questions and problems concerning social policy, e.g. supply/demand questions related to the increases of mothers in the work force (DHSS/DES, 1976; Hughes, Mayall, Moss, Perry, Petrie & Pinkert, 1980; Moss, 1978). The primary focus was clearly on types and levels of preschools provision (Blank, 1974; Mayall & Petrie, 1983; Tizard, 1975; Van der Eyken, 1977, 1981; Woodhead, 1979) and not particularly on assessing the effects of preschool on later development.

In another study, Field (1991) investigated two factors and their possible relationships with grade school behaviour and performance: the length of time in day-care and the quality of the programme. While some earlier studies demonstrated day-care attenders as more aggressive (Belsky, 1987;

Rubenstein & Howes, 1979; Schwarz, Strickland & Krolick, 1974) other research showed that day-care attenders were more sociable with peers (Andersson, 1989; McCrae & Herbert-Jackson, 1975) and made significant social and intellectual gains as a result of being in day-care from an early age (Field, Masi, Goldstein, Perry & Parl, 1988; Howes, 1990). Field examined social compliance and school adjustment on two sets of longitudinal data. The first sample included primary school children who received stable high quality, full-time day-care. The second sample had older grade school children who received a mixed variety of full-time day-care. Children were assessed on several social and behavioural measures, i.e. a self-concept scale, a behavioural rating scale, time-measured observations and achievement scores. The results showed that the amount of time spent in care was positively related to the number of friends the child had; the number of extracurricular activities and parent rating of the child's emotional well being. The children in day care for longer periods of time were more assertive and demonstrated greater leadership abilities. Although findings suggest positive relationships for children attending high quality care for longer period of time, there is some difficulty in knowing whether these are directly related to the provision or from the parent's qualifications themselves. All parents in this study were 'middle class, medical professionals and staff'.

Another study by Howes (1990) supported Field's findings, contending that children who attended quality care tended to adjust better at school entry when compared with children in low-quality care. Furthermore, when comparing age of entry (children entering before and after 12 months of age) into day-care on social measures, it was found that children in day-care from an earlier age tended to be more socially compliant and have fewer behavioural problems than children who were in care for shorter periods. While both these studies (Field et al., 1991 and Howes, 1990) focused on social behaviours, their assessments on children overlapped aspects of cognitive development and therefore, have been considered in this section on the review of preschool effects on cognitive development.

By the mid-1980's, it was becoming increasingly evident that attendance at preschool intervention and compensatory educational programmes had positive effects on children's cognitive development when compared with children who stayed at home. It also seemed that attendance at preschools was offering more in the way of cognitive gains and school-entry benefits when compared with children receiving no preschool. The focus of educators was not so much on what we could give (teach) to children but what we could learn from

them and extend upon them. Yet, despite the seeming positive aura, there were doubts and reservations raised about the generalisations and implications of these findings (which still continue). With more advanced designs and statistical procedures being used, research exposed a more complex web of factors in the life of the preschool child at home and at school. Definitive lines between gains on aspects of development were often indistinguishable and the 'quality' provided by preschool provision could no longer be dichotomised into categories which weighed heavily on education. Researchers were posed with new questions concerning factors affecting cognition and development, such as styles of learning and teaching; orientations to learning; dispositions, temperaments and personality traits (discussed further in section 1.6). An important consideration for many was the question of how these preschool effects interacted with familial and cultural variables.

Several studies emphasised the role of parent participation as a key factor in contributing to positive benefits. Parents were seen as co-partners (Bronfenbrenner, 1977; Hughes, Wikeley & Nash, 1994; Pugh, 1992; Smith, 1980; Wolfendale, 1983, 1989) in early childhood education and development. Pugh and De'Ath (1989) found in a three-year study on parental involvement in several types of preschool centres that parents' attitudes towards, and involvement in centres, varied. They described this involvement in five major categories: non-participation, support, participation, partnership and control. The categories do not progress, as such, nor is there one 'ideal' type of involvement. The emphasis was on involvement in terms of 'appropriateness' which depended upon the needs of the centre. They found that very few centres involved parents in 'partnership' where parents and staff worked together with a sense of purpose, respect and negotiation.

In an earlier study, Smith (1980) also identified 'partnership' as one of two identifiable models of parental involvement (the other was 'professional'). Fifteen preschool groups were selected for this study: half playgroups, one-fourth nursery classes and one-fifth nursery schools. the aim of this study was to focus on 'processes' of parent interaction and involvement, looking at staff attitudes towards parents' involvement. The sample of 15 groups were divided into two categories: those with high parental involvement (8) and those with low parental involvement (7). Data was collected by observational methods and short discussions. When the three types of preschool groups were compared, playgroups were found to have the highest scores on all forms of parental involvement - servicing (fund raising), management and helping with sessions. Nursery schools were more welcoming and open than other groups to parents

at the beginnings and end of daily sessions. Smith reports that it was unusual to find parents acknowledging an explicit learning or teaching role. Roles, in educational terms or otherwise, were not formally expressed and there was no 'formal' programme for parents in any of the groups. If parents operated as teachers it was by accident and not pre-planned.

Other research reviews have given appraisals of work with parents in several types of educational and community settings (Wolfendale, 1983) confirming these findings. According to Wolfendale, parents have generally been regarded as 'clients', not 'partners.' The client role is seen as a passive, deficient and dependent recipient, whereas the partner role is active, reciprocates and shares responsibility. The one consistent requisite agreed upon from several studies cited which show programme effectiveness, is that parental involvement is perceived as having advantages whichever form the parental involvement, e.g. as a focal point on curricula training, training mothers at home, improving 'total' home environment. Most agree that while the theoretical basis for partnership is well rooted, in reality there is still a considerable way to go before "the care and education of young children is based on a shared sense of purpose, respect and real dialogue" (Pugh & De'ath 1989).

### **1.3.6 Research on Cost-Effectiveness**

When we consider issues concerning public policy, as many preschool intervention programmes do, possibly the most convincing research comes from studies which have clearly demonstrated the economic advantages which are the result of preschool attendance (Barnett & Escobar, 1990; Berrueta-Clement, 1984). According to Barnett & Escobar (1990), when a programme is considered 'economically efficient' it has been economically analysed to have demonstrated a net gain for society. By way of cost-benefit analysis, monetary values are estimates for the total cost of the resources (preschool intervention programmes) used and the effects produced which are benefits (often monies saved to tax supported welfare and government agencies). In America, rough estimates (1989 estimates) for child-centred programmes per child annually range from \$4,000 to \$9,000, with infant and handicapped children at the high end of the scale. Home-based programmes are somewhat less, \$1,500-\$4,500 per child annually (Meisels & Shonkoff, 1990). Costs tend to vary considerably according to the number of hours per day a child attends, the number of staff required, the number of services offered and/or family support units. As mentioned earlier the economic findings for the Perry Preschool Project (Barnett

& Escobar, 1990) proved to have long lasting preschool effects and also was a sound economic investment. Other studies, although shorter in duration than Weikart's study, have demonstrated the cost benefits from intervention programmes for the disadvantaged. In 1981, Weiss conducted a language intervention programme, INREAL, in preschool and kindergarten classes for disadvantaged children. After a three year follow-up, children were found to have fewer grade retentions and special education placements than the control group children. The benefits were shown to outweigh the costs. Similarly, Seitz, Rosenbaum and Apfel (1985) found benefits outweighing costs on a ten-year follow-up study of disadvantaged families who participated in the *Yale Family Support Project*. According to Sylva, in *Evaluating Early Education Programmes*, cost-benefit analysis of programmes is an important component required for policy makers and will continue to be so for some time.

The short and long-term studies mentioned have concentrated on research in mainly Britain and America. One important factor in determining the effectiveness of preschool education is its capacity to produce supporting evidence (in outcome measures) in various cultures and geographic contexts elsewhere. A few studies which have demonstrated significant benefits of preschool education in other countries are mentioned.

#### **1.3.6 Research and Evidence: Preschool Effects in Other Countries**

A further look at research from different parts of the world seem to confirm the findings that high quality preschool experience does have positive effects on several aspects of child development (Bekman, 1990; Kagitcibasi et al., 1988; Sharma, 1987; Shinman 1985).

The underlying implication to these studies suggest that early childhood programmes which offer high quality (trained, skilled and motivated staff, child-centered learning-orientation, good staff/child ratio, and a sound parent participation programme) rather than performance-orientated programmes, give long-lasting advantages to children from many types of backgrounds - working-class, middle-class, poverty stricken, disadvantaged, handicapped, and orphaned (Cawson & Perry, 1977; Clark, 1988; King, Raynes & Tizard, 1971; McKey et al., 1985; Schweinhart et al., 1993).

An example is well illustrated by Bekman (1990) in a four year investigation of the effects on Turkish children (N=225) of three different preschool settings:

care-orientated settings, educationally-orientated settings and a home-care setting. Two of the groups, the educational and the home group, received a home intervention scheme (Lombard, *Home Intervention Programme for Preschool Youngsters (HIPPY)*, 1981). Children and adults were assessed on several outcomes measures: school achievement, cognitive and IQ scores, personality and social development measures, and mother's behaviours and their teaching strategies (attitudes, self-concept, satisfaction with environment, life style). The findings showed that children in educationally-orientated preschool provision, on all outcome measures, outperformed children in care-orientated environments and children at home. The highest gains were made by children who attended educationally-orientated preschools coupled with the mother-training programme (HIPPY). Both served to improve cognitive skills, foster greater independence and improve social relations and school adjustment. Bekman claims that such a programme is very cost effective, although details of the cost-benefit analysis are not given in this report (1991).

Another study in Spain, although of a less rigorous design and analysis than Bekman's study, also offers further demonstration of the benefits for deprived low-income children who have attended planned preschool programmes with a mother training programme. *The Andalusian Programme, 1977-1984*, (funded by the Fundacion General Mediterranea and the Bernard van Leer Foundation) serves a catchment area of three villages in the south of Spain: Cordoba, Granada and Seville. Mothers worked as para-professionals both in a child-orientated structured programme and at home which resulted in children, families and community gains. The author claims that mothers became more confident and the children 'social and emotional behaviour became more stable' (actual data was not given; Shinman, 1985).

In India, findings from smaller off-shoot studies (Hong, 1989, Sood, 1987 both studies cited in Sylva, 1990) sampled from a large child-care programme known as *The Integrated Child Development Service (ICDS)* has shown benefits for children. Children from the 'anganwadi' (courtyard) programme were more likely to enter school and were better prepared, academically than children who stayed at home.

The studies mentioned have illustrated only a small proportion of the research which has demonstrated short and long-term effects of preschool experience on cognitive development outside the US and Europe. In several studies, the findings have overlapped into other domains of development (social, emotional)

therefore yielding results which show mixed effects on more than one aspect of development.

Overall, they have demonstrated that:

1. High quality preschool experience has positive and significant effects on cognitive, educational and reasoning abilities,
2. Children who attend preschool are more likely to be better prepared for primary school entrance than children who have not attended preschool,
3. Different types of preschool matter. Children attending 'high quality', child-centered learning orientated environments are more likely to experience cognitive gains and long-term social benefits,
4. High quality preschool provision is a long-term, cost-effective investment for society, working preventively to counteract increases in teen age pregnancy, unemployment, high school drop-out rates, and crime. (Note this is based on one study only).

#### **1.4 The effects of preschool experience on social development**

Inevitably, as the various aspects of development (cognitive, social, emotional) are discussed, there is likely to be some overlap between them, particularly when establishing boundaries of social behaviour and development. In a real sense, children are indivisible wholes with each facet of development continually interacting with every other. In this context, social development may be the least isolated for at times it may be seen as a context for emerging intellectual, emotional and psychological maturity (Woodhead, Carr, & Light, 1991).

It has long been a standing view that the opportunity to interact with other children in a controlled setting will result in better social adjustment. Some early studies were based on repeated observations of the same child over a period of attendance at preschool (Andrews & Harovitz, 1938; Malley, 1935).



The findings did not produce the necessary evidence that preschool attendance caused the changes noted since the effects of maturation could not be ruled out in the absence of a control group or standardised norms for evaluating social development. In general, these early researchers found preschool attenders to be more socially outgoing, more successful at social skills and more independent.

Methodologically sounder studies, composed of matched control groups were later shown by Brown and Hunt (1961), Cushing (1934), Van Astyne and Hattwick (1936). Most of these studies used teacher's ratings on various aspects of social behaviour to assess social adjustment. While some early studies reported positive findings showing better social adjustment following preschool attendance, in general there were no clear cut findings that reflected superior social adjustment of children who had attended preschool when compared to those who had not. More decisive, causal findings on social development were found in the studies by Bonny and Nicholson (1958). These studies investigated children's later school adjustment associated with differing preschool experiences (nursery school and kindergarten). The school adjustment was measured by teacher's rating of children and then placing them into 'upper and lower' standings in the classroom (criteria for 'upper and lower' ratings are not given). In one study they looked at 14 classes from first to sixth grade (N=402 children), half with no preschool experience, one-fourth with nursery school experience and one-fourth with kindergarten and nursery school experience. While initial results showed no significant differences between groups in social adjustment ratings, a later study using the same assessment procedure showed that at six grade level those children with preschool attendance were better adjusted. Furthermore, those children who had attended high quality programmes ('represented by the best kind of training available') scored significantly higher on social adjustment measures. These early findings would suggest that if socialisation experiences were going to have significant effects they would need to be based on preschool experience of high quality, such as, high levels of interaction between pupils and teachers, well trained staff, resourceful environments, etc. Later evidence supported these findings on social adjustment benefits for children who attended preschool (when compared to non-attenders). Kagan (1976) Moore (1975) and Raph, Thomas, Chess & Korn (1968) found that children were less vigilant and less inhibited as a result of preschool attendance. Overall, early findings were contradictory, offering an inconsistent view of preschool effects on social measures. One study found that non-preschool attenders were found to be better adjusted when compared with preschool attenders (Brown & Hunt, 1961).

Asperera and Barbiero (1968) found that group care fostered autonomy and self sufficiency, but did not bring about social maturity.

Sounder, cohesive measurable effects of preschool came later in studies from America that demonstrated long-term 'non-cognitive' effects for preschool attenders when compared to children at home (Lazar et al., 1982; Osterlind, 1980; Schweinhart & Weikart, 1980; Schweinhart et al., 1993). Schweinhart and Weikart's data showed more achievement motivation, more social competence and more prosocial behaviours (fewer criminal offences, fewer teenage pregnancies and higher high-school completion rates) with children who had attended preschool (Sylva, 1993). These findings were received with mixed regard. Many did not believe that results could be generalised (from an all Afro-American sample) nor 'inoculate the poor' for later success. Poverty was more complicated than previously thought. It was not something to 'break out of' but, rather a situation to improve upon. The evidence showed a good programme can bring about significant changes. The results led to the identification of 'key features of the child's social world that transform the preschool experience into long-term engagement in the school success flow'. These key features are the characteristics for identifying quality (Woodhead, 1985, p.147).

Other studies in the U.K. showed that different types of provision had effects on children's social behaviour and development. As part of a national survey/comparative study on various types of preschool provision in Britain, Osborn and Milbank (1987) found that children who attended local day nurseries were more deviant, both socially and emotionally when compared to children in other preschool groups (nursery schools, nursery classes, playgroups and the no-preschool group). The social outcome measures reported from this study did not establish any definite causal links with preschool effects mainly, because groups were not controlled at entry on backgrounds and there were reported significant interactive effects which may have accounted for the differences found.

From Sweden, clear results demonstrated long-term effects from a study which followed over 100 children (1992) children from their first year of life until thirteen years old (Andersson, 1992; Andersson & Sandqvist, 1989). When children were tested at the eight year follow-up on social competence outcomes, the results showed many factors were related to competence: middle-class families with educated mothers; gender; and more verbally talented children. It was found that preschool experience also affected social

outcomes, nearly significant:  $p < 0.08$ . Higher significance levels were found on the social adjustment measures at eight years, especially for children who entered day-care before the age of one year. The lowest scores were associated among those without day-care. Similarly, the results at thirteen years, indicated long-term lasting effects of day-care experience on social behaviour and development. These findings contradicted previous held warnings that day care experience during infancy (more than 20 hours per week) had harmful affects on children's social and emotional development (Ainsworth, 1973; Belsky, 1984, 1986, 1987, 1989; Gamble & Zigler, 1986). Belsky claimed that low-quality day-care during infancy may have harmful effects on the development of young children. Others, like Andersson claimed that day care did absolutely no harm to children and their relationships with peer and parents, and furthermore fostered and sustained long-term social adjustment gains and competence (Clarke-Stewart, 1988, 1989; Clarke et al, 1983; Howes, 1990; Phillips, McCartney & Scarr, 1987; Scarr, Lande, McCartney, 1989). These results may be influenced by Sweden's consistently high quality of public child care and family support systems, i.e. educational-orientated curriculum in centres, public-funded training for staff and additional post-natal training and financial support for new mothers who elect to stay at home for the first seven months after delivery (Ball, 1994; David, 1990; Moss, 1992).

Compared to Sweden's high quality comprehensive public preschool programme, studies in Turkey reveal a sharp contrast. According to Bekman (1990) only one percent of children attend preschool institutions and most of these are privately owned. To compound the shortage, government resources are limited which means that new preschool facilities lack quality control measures and monitoring, well trained staff, parent education programmes, adequate materials and so on. Nevertheless, in 1988, Kagitcibasi, Sunar and Bekman reported findings from an investigation into the long-term effects of two types of preschool provision (care and educationally orientated) and a home intervention programme (HIPPI, Lombard, 1978) on several aspects of children's development. The aspects of personality and social development investigated were complexity of social interactions; autonomy/dependency; aggression; self-concept; emotional indicators and the child's school adjustment. The results indicated that children who attended educationally-orientated preschools (with/without the mother training programme) scored highest on overall school adjustment scores. Clearly, better quality preschool programmes in Turkey showed that children were better socially adjusted and

more independent than children who attended poor quality programmes or none at all.

#### **1.4.1 Quality of programme and curriculum as measures for gauging social competence and school adjustment**

Major long and short-term impact studies investigating the effects of preschool experience on children's development strongly suggest that the degree of benefits afforded to children, cognitively, socially and otherwise depend on the 'quality' of the preschool provision (Bruner, 1980; Curtis, 1986; Schweinhart et al., 1993; Sylva, 1994; Weikart, 1987). Some research focused attention on programme structure and curriculum, as one of the most important factors that influenced children's social behaviours and development (Bruce, 1987; Curtis, 1986; Flynn, 1991; Hughes & Donaldson, 1979; Hutt, 1979; 1982; Jowett et al., 1986; Lally, 1988; Lombard, 1988).

In Jowett and Sylva's well-controlled study (1986) 90 children (half graduates of nursery classes and half from playgroups) were followed through to their first 6-9 months into reception class. The findings showed that nursery class children (who experienced a higher quality of provision) appeared better able to cope with the demands of primary school when compared with the children who attended playgroups. On time-sampled observations, the results showed nursery children initiated more contact with the teachers that led to learning exchange, i.e. used the teacher as an educational resource. Measurements on the school adjustment scale (Thompson, 1972) showed children in nursery class were more independent and concentrated longer. The results were in line with previously described differences in provision where good quality indicators, such as a wide variety of space, resources, opportunities for children and well-trained staff led to better academic performance, social relations and school adjustment. As this study had no control group (non preschool attenders) differential causal preschool effects between preschool attenders and non-attenders could not be drawn.

Similarly, Howes and Olenik (1986) took a close look at children's compliance and self regulation as an outcome measure for social adjustment. They examined (quasi-experimental) two types of child care centres: a high quality centre and a lower quality centre, with a control group of non-child-care attenders. Family characteristics and their interrelationships with each type of

care provision were controlled. Children in high quality centres were found to be more socially compliant. Children enrolled in low quality child-care came from more stressful households and their parents were least involved in their children's compliance. These results suggest that children's compliance levels are different in different settings at different ages and supports earlier studies showing that programme structure plays a key role in social development. Similar social adjustment gains for preschool attenders in high quality care compared with children in low quality care was reported by many studies which are contained in several reviews (Hutt et al., 1989; Lamb et al., 1992; Schweinhart et al., 1993; Vandell, Henderson & Wilson, 1988).

According to Ladd and Price (1987) certain individual characteristics in children play a role in helping them adjust to formal school. These researchers focused on the transition from preschool to kindergarten, looking at factors that predicted children's social and school adjustment. Using a single sample of children, they assessed the children at three intervals. The primary aim of this study was not experimental (there was no control or comparison group) but rather to identify factors that predict children's social functioning and school adjustment in new settings. The results showed that cooperative and well-liked children in preschool were rated as more sociable by teachers in kindergarten. In contrast, aggressive children in preschool were rejected by their peers at kindergarten. Also, children who had attended more days at preschool and were exposed to a wider range of peer contacts in the community tended to be less anxious. How widely these findings can be generalised is questionable because the sample was predominantly middle-class.

Another study investigated the long-term effects of day-care experience of varying quality on social competence measures (Vandell & Powers, 1983; Vandell, Henderson & Wilson, 1988). The initial observational study investigated 55 children, followed by a further study of a subsample of twenty middle-class children in two types of day care centres: one of superior quality having small classes, well-equipped facilities, well-trained staff, spacious; and the other centre of poor quality, having large classes, untrained staff and overcrowding. At the four-year assessment interval, the results showed positive benefits for the children attending the superior quality care. They were more positive in their interactions with adults and peers. The follow-up study at eight years observed the children again but in a laboratory setting with assigned tasks. Children were grouped in mixed social groupings - one child from each quality day care group and assigned four tasks to elicit a range of social behaviours. The results showed increased prosocial interactions for children

from high quality care centres, affording higher social competence levels for this same group after controlling for social class differences. There was some difficulty in assessing the findings because the children followed over four years were observed in first a natural setting and secondly, in a laboratory setting with imposed social groupings and assigned tasks. Although social class backgrounds were controlled for, families of higher social class were significantly more likely to select better quality day care when compared to lower class families. There was also considerable variability in family classified as 'middle class.' Furthermore, there is little mention regarding other family background variables or possible occurrences that may have happened over the course of the four-year interval between these two observations.

The studies reviewed so far have shown that preschool experiences of high quality have beneficial effects on children's social behaviours and school adjustment. Further evidence of quality components in good preschool practice were found from studies that focused on curriculum as a contributory factor associated with behaviour and development.

Some of the studies that investigated the curriculum as an important factor in the quality of preschool programme and its relationship to social behaviour were: Dye (1984); Sylva et al. (1985); Flynn (1991); Smith and Connolly (1980); Schweinhart et al. (1993). Dye (1984) examined the influence of different preschool curriculum on social competence and found that the experimental group (nursery which used curriculum based on Curtis and Hill's (1978) *My World*) became more mature socially than the controls (used a traditional free play nursery curriculum). Several studies evaluating the well-known High/Scope curriculum found improved social benefits for children and staff (Blackwell, 1990; Sylva, Smith & Moore, 1985; Weikart, 1987). Children were more resourceful, less adult dependent, more goal-task directed and more communicative. Social interactions were also more positive. Critics of High/Scope argued that it is too structured and places too much stress on staff and parents with its extensive accountability procedures. Others have expressed concern over the possible risk of under-allotting time for creative enterprise, i.e. not allowing children 'the opportunity to stand and stare' (David, 1990).

Further illustrated preschool curriculum effects on social development were shown from investigative studies that employed the Montessori method and curriculum (Berreuta-Clement, Schweinhart, Barnes, Epstein & Weikart, 1984; Boehnlein, 1988; Bruce, 1990; Flynn, 1991). Flynn (1991) measured social

differences (personal skill, relationships with teachers, peer relations) between two types of provision: three traditional preschools and three Montessori preschools in the US (N=200+). The aim of this study was to compare the effects of time in two different programmes on several children's outcome measures (The Pre-Kindergarten Scale and a behavioural rating scale). Significant differences were found between personal skills, behavioural control, cognitive skills and time in programme for children in the Montessori programmes. Other research findings comparing Montessori programmes with traditional preschools and play centres found that children at Montessori centres were more task orientated (Berk, 1971) yet less creative, played less and used less symbolic play (Beller, Zimmie Aiken, 1971). Banta (1969), Smith and Connolly (1980) Elkind (1981) Bruce (1992) and many others, suggested that a wide variation in interpretation and practice of Montessori posed problems. Boehnlein (1988) cited several short and long-term studies on the effects of Montessori practice on child development, and found considerable problems associated with sampling due to the variation in programmes and teacher training. However, several comparative studies using the Montessori methodology and curriculum have demonstrated higher social competence scores (Barnes & Murdoch, 1973; Berk, 1973; Tatem (1977) cited in Boehnlein, 1988; Wirtz, 1976); higher levels of peer interaction (Reuter & Yunik, 1973); more autonomy and impulse control (Berger, 1975); more social mores (Goldberg, 1975); and better attention skills (Stodolsky, 1969) for children attending Montessori preschools when compared to control groups receiving other types of preschool experience or none at all.

Some of the studies mentioned above have investigated preschool effects on social behaviour by using experimental (random samples) and quasi-experimental (intact groups) methods and designs. These studies have compared and analysed children's social behaviour and development using product-testing methods, i.e. pre- and post-testing outcome measures. These studies have shown that preschool attendance can cause beneficial gains in children's social behaviour and development. Other studies have shown that factors in the preschool environment are related to children's social behaviours and later school adjustment to new settings. In some cases, these findings have been based on data collected by observing children's behaviour in natural and pseudo-natural settings, often using observed behaviours for comparison and analysis. Observational studies generally employ formal schedules, time-sampling methods, video recordings and rating scales, as means for assessing social interaction and behaviour in preschool settings. The aims of observational methods are to record actual behaviour as it is happening,

thereby capturing the processes inherent in learning and development, and not just the end products.

The following section looks at studies which have mainly used observational methods for assessing the effects of preschool experience on social behaviour and development.

#### **1.4.2 Quality of interactions and activities (play) as measures for social behaviour and development**

Several studies have used observation of children's play as a vehicle for describing and assessing aspects of social behaviour and interaction in preschool environments (Buhler, 1933; Davie, Hutt, Vincent & Mason, 1984; Gamble & Zigler, 1986; Howes & Olenik, 1986; Hutt et al., 1989; Duveen & Lloyd, 1989; Lunzer, 1958; McLoyd, 1983; Parten, 1932; Piaget, 1951; Smith & Connolly, 1980; Sylva et al., 1980; Tizard et al., 1976a; Wintre, 1989; Zigler & Hall, 1988).

Many believe play to be the principal activity in the child's life during the preschool years. The various forms of play and its different approaches to its study have led to different ideas about the causes of play and the functions it may serve. Parten (1932) studied the free play behaviour of young children and claimed that there was a developmental pattern that social play follows. That pattern began with simple levels and moved toward more complex levels as the child matured. Buhler (1933) turned play research in another direction, describing cognitive levels in the child's use of play equipment. Lunzer (1958) somewhat later asserted that there are positive relationships between intelligence in children and play maturity. Some of Buhler's work laid the groundwork for Piaget (1951) who thought that cognitive play had its own developmental nature. According to Piaget, children pass through a series of stages of cognitive play, beginning with repetitive muscle movements, known as functional play, towards a more complex form of play with games having rules. He described these stages of play development as: sensori-motor play; symbolic or representational play and games with rules. Shortly thereafter, Smilansky (1968) based her four cognitive play categories on Piaget's work. They were: functional play; constructive play, dramatic play and games with rules. Dramatic play had two parts: complicated socio-dramatic play and dramatic play in general. Basically, the research to follow in the area of observed play would challenge, follow or modify these earlier works.



Most of the following studies are reported findings of observations of free play time at different types of preschool settings and at home. Observation schedules, time-sampling models and rating scales were mainly used for assessment in several of these studies (also see section 1.6: *Factors Affecting the Nature of Preschool Education*, for further details).

In a classic study of children from ages two through five, Parten (1932) established that very young children often engage in parallel play in which two children play with separate objects but are near each other and sometimes talk together. As children get older, they manifest more cooperative play in which they co-ordinate their activities to attain a mutual goal. The social play categories described by Parten have been widely used in other research (Barnes, 1971; Harper & Sanders, 1975; Rubin, Maioni & Hornung, 1976; Shure, 1963; Smilansky, 1968; Tizard et al., 1976; Wintre & Webster, 1974). Initial findings by Smith, (1978) and Barnes (1971) reported similar findings to Partens, suggesting that solitary play was a less mature form of play. In contrast, Rubin et al. (1976) and Moore, Evarston & Brophy (1974) suggested that parallel play is less mature than solitary play. Some of these views were later modified with new evidence to show that solitary play was an independent and mature form of play (Moore et al., 1974; Rubin, 1982; Smith et al., 1980; Tizard et al., 1976; Zigler & Hall, 1988).

#### 1.4.2.1 Different types of play facilitate different social behaviours

Further studies indicated a strong correlation between play categories and certain social and cognitive measures. Sylva and her colleagues (1980) found that more adult-child-exchanges (3-turn dialogue) occurred when children were engaged at structured tasks while in pairs and more child-to-child talk occurred when children were in non-goal orientated activities. Sylva's study also showed that the type of activity the child chose mattered. More structured, goal-orientated tasks (such as painting) seemed to stretch the child's interest and imagination, which led to increased social and cognitive gains. Likewise, McLoyd (1983) and Smith and Connolly (1980) showed high structured play objects elicited more associative, pretend play. Later studies, by way of contrast reported that children played mainly in a stereotyped, repetitive manner at preschools with very little opportunity for challenging engagement (Davie et al., 1984; Hutt et al., 1989). Some studies concluded that pretend play seems to be related to an increase in intellectual, social and emotional benefits (Chazan,

Laing & Harper, 1987; Fein, 1981). Rubin et al. (1976) suggested that there are certain play categories that are associated with cognitive measures. Their findings found a negative correlation between functional play and the child's ability to classify, while dramatic play was positively correlated with classifying abilities. According to Smith (1988), pretend play is closely linked to the child's recognition of self and is a basic component of the symbolic activity of the child.

#### 1.4.2.2 Play that facilitates problem solving

In observing play there is always the recognition that children who have the opportunity to play in a variety of ways, with a variety of materials, can solve problems. Pellegrini and Urbain (1985) thinks that problem solving abilities are fostered by the development of both abstract (symbolic) and divergent thinking skills in children. Bruner, Jolly & Sylva (1976) agreed that symbolic play facilitates the transition from concrete to abstract thinking and Vygotsky (1967) stated that problem solving and divergent thinking are due to the flexible nature of play and enhanced by information about objects. Dansky (1980) and Moyles (1989) suggest that pretend play leads children to create alternative uses and possibilities for objects, often finding solutions to problems. Piaget (1926), Berlyne (1965) and Hutt (1982) suggested that 'diversive' exploratory play is more likely to promote problem-solving abilities. Directed exploratory play with goals, according to Sylva et al. (1980) is a prerequisite to problem solving and teachers who provide challenging play activities help to develop higher-order thinking strategies in children. Goal-orientated tasks not only enhance problem solving skills but they maintain the concentration needed for memory and recall (Brierley, 1987; Sylva et al., 1980). Jowett & Sylva (1986) showed that children who had attended nursery schools with guided play were four times more likely to persist with difficulties and they were less likely to 'give up' on difficult tasks or situations than children at playgroups. This study implies that higher quality preschool play found in the nursery school settings when compared with playgroup settings, fosters skills and persistence when problem solving. In line with these findings, High/Scope curriculum has demonstrated favourable findings owed to its problem-solving approach (Blackwell, 1990; Hohmann, Banet, Weikart, 1979). These authors contend that the programme fosters long-term problem solving skills, concentration skills and awareness of these skills to children (Schweinhart et al., 1978; 1993).

Smith and Simon (1984) summarised a review of studies which compared the effects of free play and directed-training sessions on convergent or divergent problem solving and suggested that experience in play and non-play conditions

contributes equally to convergent problem-solving where there is only one solution. Play experience was found to contribute more to success on divergent problems where many and novel solutions were required. Curtis (1986) thinks that children naturally solve problems provided the preschool environment is well prepared and imaginative. Also well trained and skilled staff are instrumental in presenting the available choices and guidance for children to solve problems independently (Brown & Campione, 1978; Nisbet & Shucksmith, 1986). Moyles claims that successful problem solving with young children is not going to happen overnight. Teachers need time to adjust their methods and 'children will need to be fed with ideas through a variety of activities and discussions'. On a final note, she adds 'problem solving links the intellectual with the practical: it links basic skills with higher-order ones; it links teaching with learning; it links direction with choice - essentially, it links play with 'work'.' (1989, p. 67).

#### 1.4.2.3 Conversations in play: Type and duration of adult/child interaction

Other studies focused on the nature and duration of adult/child social interactions observed in preschool settings, some of which have been mentioned. For the most part, there appears to be some inconsistency in the findings. Several studies found that staff were more likely to spend time involved in management practices and cleaning-up than playing actively with children (Hutt et al., 1989; Smith et al., 1980; Tizard et al., 1976). However, when they did actively participate with children at play, children were likely to benefit, both cognitively and socially. The type and quality of conversation by staff is, also, reported to be limited at preschool, consisting of either one-off remarks and brief questions which may be redundant responses (Donaldson, 1978; Hughes, 1983; Hutt et al., 1989; Sylva et al., 1980; Tizard et al., 1976; 1988; Wood & Wood, 1983). Lees (1981) asserts that teachers have 'styles' of language use and behaviour which must be considered. Furthermore, studies have shown that child-to-child conversations are usually more frequent than child-to-staff conversations (5 times more in Tizard's et al. study 1976; 3 times more frequent in Sylva's et al. study, 1986). Tizard & Hughes (1984) found children's conversation at home richer and more elaborate than children's conversation at preschool, i.e. children's language is imbedded in their unique cultural make-ups (Donaldson et al., 1983; Hughes & Grieve, 1980; Labov, 1969; Wells, 1983).

#### 1.4.2.4 Adult/child interaction as it relates to prosocial behaviour

The quality of child/adult interaction in play situations has also been explored in studies which measured 'prosocial' behaviours of children in free play situations. Prosocial behaviour is a term used to refer to culturally prescribed moral and social actions such as sharing, helping someone in need, co-operating with others, and expressing sympathy. It often requires self-control, self-sacrifice and is likely to conflict with competitive norms. Mussen & Eisenberg-Berg (1977) and Rushton (1980) found that altruistic behaviour tends to increase with age and that children who tend to share in one situation tend to share or be helpful in another. Paradoxically, though, it has been demonstrated that children who are often helpful and sympathetic to others also turn out to be among the most aggressive children (Radke-Yarrow, Zahn-Waxler & Chapman, 1983). In explaining this paradox some feel that children who are more social display more of all kinds of social behaviour (Gamble & Zigler, 1986). Others suggest that it may be the moderately aggressive children who are most often helpful and kind; the extremely aggressive children are less often prosocial (Radke-Yarrow et al., 1983). Additionally as children grow older, their prosocial behaviour is more often stimulated by empathy than is the case for young children (Underwood & Moore, 1982). Zigler & Hall (1988); Gamble & Zigler, (1986), and Howes & Olenik (1986) suggested that gender differences play an influential role in response to the degree of prosocial behaviour and its relationship with assertive/aggressive behaviours. If the aim of parents or community is to promote prosocial behaviour then many are suggesting that the direction should be one of pursuing those characteristics of quality provision mentioned throughout this study: sensitive and supportive adult interaction, adequate attention (low staffing ratios), a rich, creative and varied environment for active-learning and discovery, and a team effort by parents and teachers (Andersson, 1992; Ball, 1994; Beardsley, 1990; Curtis, 1992; Epstein, 1993; Johansson, 1993; Katz, 1993a; Schweinhart et al., 1993; Sylva, 1993, 1994; Vandell et al., 1988; Zigler & Styfco, 1993).

There are many factors which influence play, some of which will be considered here and discussed in further detail in section 1.6.

#### 1.4.2.5 Sex/ gender differences in play

Sex/gender has an influential role in play situations and child-to-child interactions and adult/child interactions (Andersson, 1989; Bruner, 1980; Gamble & Zigler, 1986; Howes, 1990; Howes & Olenik, 1986; Duveen & Lloyd, 1989; Manning, Heron & Marshall, 1978; Smith & Connolly, 1980; Tizard et al., 1976a, 1976b; Tizard & Hughes, 1984). When boys were compared to girls, they: were more likely to demonstrate sensitivity to staff (Howes & Olenik, 1986); have coping strategies that were more 'mastery' inclined (Howes, 1990); be more aggressive with peers (Schwarz, Krolick & Strickland, 1973; Belsky & Steinberg, 1978; Clarke-Stewart, 1982; Gamble & Zigler, 1986; Zigler & Hall, 1988); were more likely to harass others (Manning et al., 1978; Smith & Connolly, 1980); were more likely to play at rough and tumble play (Smith & Connolly, 1980; Richman & McGuire, 1986) and boys were more attracted to masculine interests and activities than girls were to feminine activities.

#### 1.4.2.6 Social class as a factor in play

Many studies have focused on social class as a primary factor influencing social behaviours observed in the play of young children (Bernstein, 1967; Bekman, 1977, 1982; Bruner, 1980; Bruner et al., 1976; Deutsch, 1973; Hutt, 1982; Smith & Connolly, 1980; Smilansky, 1968; Tizard et al., 1984; Tizard et al., 1976a, 1976b; Wintre, 1989).

When children of working-class backgrounds were compared with children of middle-class backgrounds in preschool settings, they were found to: play less in dramatic play (Smilansky, 1968; Tizard et al., 1976a) use 'restrictive' language codes (Bernstein, 1967); be more inclined to engage in 'partial' use of play materials and in parallel play (Bekman, 1977) and have mothers use more physical punishment for disciplining them (Elder & Bowermann, 1963; Hoffman, 1963; Kohn, 1972). More positive findings for working-class children would demonstrate that they didn't have dull and poor language, but rich and elaborate conversations at home (Labov, 1969; Tizard & Hughes, 1984) and they had more advanced levels of social play (Wintre, 1989) than their middle-class counterparts. Mothers of middle-class children were found to: use more reasoning to discipline their children (Elder et al, 1963; Hoffman, 1963 Kohn, 1972) were better teachers with their children (Hess & Shipman, 1965); were more in-tune with the views of preschools on issues related to educational gains (Bernstein, 1967); used more language for more complex purposes (Tough, 1976; Davie, 1979) and have higher expectations in terms of social

status attainment for their children (Cohen & Cohen, 1988; Smith & James, 1975; Tizard and Hughes, 1984).

Further discussion of the various factors affecting the nature of preschool education on measures of development are reported in *Factors Affecting the Nature of Preschool Education*, section 1.6.

#### **1.4.3 Research: Effects of preschool on self-concept**

Self-concept plays a critical role in social development and learning. Although related, self-concept is not the same as self-esteem. Self-esteem is based on evaluations and judgements about one's perceived characteristics and is directed at domain specific abilities, whereas self-concept does not imply positive or negative feelings about the self. Self-esteem is only one component of self-concept (Samuels, 1977).

Harter (1990) describes the formation of self concept as a series of self judgements which follow a developmental path. The structure of this path consists of four different, yet overlapping levels. The first level is where the self is understood in terms which describe behaviours, like feelings and preferences. At level two, the self is compared to others and then at level three, the self focuses on personal characteristics and is preoccupied with the opinions of others. At level four, the self seeks to define one's own personal philosophy, belief systems and moral standards. Subsequently, the capable, likeable child who sees himself/herself as being valued would be described as having a positive self-concept. The child with low self-concept, on the other hand, is the opposite, showing signs of dependence, lack of spontaneity, isolation, possessiveness and withdrawn behaviours. Furthermore, Kagan (1970) reported that by the age of seven years, children who have previously had a history of failure will continue to expect to fail and will invest less effort, eventually avoiding activities that one is not good at. The reasoning behind this suggests that failure becomes less humiliating if the child does not expect to succeed at it.

Harter (1990) tells us that at level one preschoolers often demonstrate 'normative distortion,' which is the inability of young children to distinguish between the wish to be competent with reality; or the discrepancy between the ideal self-image and the real-self (Stipek, 1981). Somewhat later, Butler (1990) claims that five year old children have the ability to realistically self-appraise their competence and success. She claims that the reason children tend to

overestimate or inflate their competence is not because they are more wishful thinkers than older children (Stipek, 1984) but rather because 'they are more likely to encounter difficulties in processing information relevant to accurate self-assessment' (Butler, 1990, p. 201). Butler found that preschoolers had success at defining appropriately their competence, particularly in terms of task mastery on competitive tasks. These findings set the age much lower than previous research (Nicholls, 1978; Stipek, 1981) and suggest that children tend to regard competitive success higher than individual success (Butler, 1989; McClintock & Moskowitz, 1976).

While there are numerous studies which show factors affecting the relationship between the child's overall preschool experience and the development of self-concept (e.g. disadvantaged backgrounds, mother depression, father occupation, punishment by adults) there appear to be only a hand-full of studies which show the impact of preschool experience on the development of self-concept. These will be discussed.

Findings from many Head Start programmes (McKey et al., 1985) which measured preschool effects on self-esteem demonstrated that there were immediate gains for the intervention group but by the third year these children had lower self-esteem than the control group. Achievement motivation, which is highly correlated with levels of self-concept, was the most stable aspect considered. The results showed nearly significant, long-lasting benefits for the Head Start participants when compared with the control group ( $p < .08$ ). They also showed significantly higher scores on the sociability measure initially, but the scores at the third year testing interval showed there were no significant differences with control groups. McKey explains that the social outcomes reflect the influence of different children varying on SES, ethnic background, IQ, gender and age and that there would not appear to be long-term effects of Head Start for measures of self-esteem and achievement motivation.

Similar findings were reported by Osborn and Milbank's study (1987). Measures of children's self-concept appeared to be unaffected by preschool attendance. Both of these large studies had some difficulty with controlling differences in samples at pre-testing for the many groups compared and so their results must be treated with caution.

Later research of sounder methodological design lends evidence to show the preschool benefits on several social outcome measures. One study of preschool children in Turkey (Kagitcibasi et al., 1988) found higher self-concept

scores for the preschool group receiving the mother training intervention (HIPPPY) when compared with children at home ( $p < .07$ ; *Larsen & Leigh's Self-Concept Scale*). Unexpectedly, it was not the educationally-orientated preschools with mother training who received the higher scores but the care-orientated preschoolers. Kagitcibasi and her colleagues explain that the design of the test (*Larsen & Leigh's Self-Concept Scale*) was to identify children with low levels of self-esteem, and therefore did not appropriately distinguish between children with average levels of self-esteem. Nevertheless, children attending preschool showed higher self-esteem measures when compared with children who stayed at home.

In his longitudinal study of Swedish children, Andersson (1989) demonstrated that children who had attended day-care the longest (as infants) were rated as more persistent and independent than children who entered day-care after the first year or had no preschool experience. Like Andersson, Field, (1991) found that children in day-care the longest showed long-term benefits. Significant correlations were also found between the time in quality care and the parent ratings of the child's emotional well being, leadership, popularity, assertiveness and aggression. Children in quality day-care showed significantly higher scores on the *Pier's-Harris Children Self-Concept Scale* when compared with children in lower quality day-care.

Long-term effects of preschool experience on social behaviours were demonstrated in two extensive studies: Lazar et al. (1982) study and Schweinhart et al. (1993). Both studies provided evidence of long-term social functioning skills and prosocial behavioural benefits for children who attended preschool. These long-term, functional skills are necessary for school success, employment, and prosocial behaviours for life. High/Scope graduates had higher measures of self-esteem when compared with matched controls (Berrueta-Clement et al., 1984). The positive and significant long term social benefits suggest that the level of self-concept played a vital role in the differences associated with the social development of children, both in and out of preschool. The results from several of the studies in the consortium analyses (Lazar et al., 1982) showed significant effects in four outcome areas: social competence, developmental abilities, children's attitudes and selected family outcomes.



#### 1.4.3.1 Some factors affecting the relationship between preschool effectiveness and self-concept measures on social development

Several studies devote attention to the factors which regulate or influence the child's development of self-concept in the preschool and home environments.

There are many variables that influence the child's development of self-concept, such as, age, sex, societal factors, culture, family and parents (Mussen, Couger & Kagan, 1974; Tocco & Bridges, 1973). Fein & Clarke-Stewart (1973) claimed that parents who used an unconditional loving, caring and accepting approach towards children offered the best orientation and groundwork for building strong and positive self-concepts for their children. Treating children with respect and providing them with encouragement and support also, helped to foster self-esteem in child development. Berman & Roderick (1977) termed it 'peopling' when significant others provide a socially connected basis for building aspects of self-concept. It may well be that 'peopling' circumstances are prevalent in play, as Yawkey (1980) suggests. In contrast, the lack of connectedness, can result in negative or low self-concept for children. Quandt (1973) explains that children with negative self-concept tend to have more problems with reading. In fact, Olson (1970) found that with older children, creative thinking and self-esteem were highly related to child's ability to read and write. There is also a strong correlation between creative thinking and positive self-concept measures, as reported by McKinnon (1962).

Another factor affecting the development of self-concept in young children is social class. Coopersmith (1967) and Rosenberg (1965) found that father employment was correlated with self-esteem: unemployed fathers were more likely to have children with low self-esteem, although the correlation was weak. Mother's employment was found to have no significant influence on the children self-esteem. In another study, Phillips & Zigler (1979) found that Afro-American and lower class children compared with other children tended to set lower standards for themselves and strive for less ambitious goals. Some of the reason for lower goal expectations may be explained in a further study by Tizard, Blatchford, Burke, Farquhar and Plewis (1988). This team of researchers followed a group (N=343: 171 White/106 Afro-Caribbean) of preschool children through to third grade (Infant School) focusing on social disadvantage, ethnicity and sex as factors influencing achievement. Timed observations on a subgroup of 90 children in reception class (half White/half

Afro-Caribbean) found that the majority of time was spent in 3R's work (64%) with a combined three year teacher-child contact period of 65% in group time of which 69% was 'task teach.' There were no significant ethnic differences found in cognitive skills assessed but White boys made the most progress over time. Higher gains were associated with children whose mothers were better off, educationally and economically. Although the results were inconclusive (there was no control group at entry) a number of factors in home and infant school were found to make important contributions to preschool children's acquisition of knowledge: at home; social class, parent's educational practices, parental conversation with the child; at school; range of 3R curriculum, teacher expectations of children, and emphasis of preschool on writing skills.

Possibly no review can do justice to all the factors that influence the short-term or long-term effects of preschool experience on social development. Importantly, it seems that preschool's positive social effects instil dispositions in children which breed greater future success (Katz, 1993). These studies have shown that a good indicator of immediate effects of preschool education is the improvement in intelligence and social performance. Even when effects are short-lived, their impact provides a connecting-structural link between the preschool experience and later effects. These later effects are shown in social, life functioning skills which lead to more stable employment, economic independence, less divorce, less crime and more social coping strategies (Schweinhart et al., 1993).

## **1.5 Effects of preschool experience on emotional behaviour and development**

### **1.5.1 Defining and identifying behavioural problems**

There are various alternatives for defining and identifying disorders within children. The learning theory approach to identifying child behaviour disturbances is best seen as a form of faulty-learned response (Ullman & Krasner, 1969). Inappropriate learning has resulted in the development of particular types of behaviour (rooted in the theory of operant, classical conditioning (Skinner, 1974; Pavlov, 1967). While this approach offered quantitative data and effective treatment, it did not easily identify behaviour problems. Another approach, termed as clinically-diagnostic (Rutter, 1970) has

been widely used in epidemiological research, clinical research and with select samples of populations. It is strongly culture-bound in terms of context, reliability and validity. Identification of problems are usually carried out by use of a questionnaire followed by an interview. Most authors of behavioural questionnaires have ardently reminded their users of their limitations. High scores from questionnaires do not accurately represent the explicit disorder nor its intensity and results should be carefully assessed. Ideally, they should be used in collaboration with other measures to create an overall view of emotional behaviour (Colmar, 1988). While there are a number of well-validated questionnaires for the identification of behaviour problems (Walker, 1973) use seems to be more valuable for investigating groups of children, not individuals.

Historically, the first systematic attempts to measure children's social and emotional behaviour in the classroom setting were by Wickman (1928) followed by Haggerty (1925) and Olson (1930). Although reliable, these early diagnostic tools had some limitations. They were unsuitable for younger children, too long for teachers to complete, and did not define distinct factors describing maladjustment (Mulligan, 1963; Ross et al., 1965; Stott, 1963). Later, Rutter (1967) devised a reliable, short behavioural questionnaire for completion by teachers to be used with children in the middle age range (7-13 years). This scale, known as the *Child Behaviour Questionnaire (CBQ)* was mainly seen as a screening device that would discriminate between different types of behaviour or emotional disorders. It also differentiated between children with and without behavioural problems. Early findings showed that the scale discriminated between a small sample of children in psychiatric clinic care and a non-clinic group of children, i.e. the prevalence rates were: non-clinic group was 11% boys, 3.5% for girls; clinic group was 80% boys and 60% girls. These findings were confirmed by Richman (1964) while using a modified version of the scale with a group of epileptic children at a special school. In 1966 the scale was used again (Rutter & Graham, 1966) on a random sample of 147 children (10-11 year olds) on the Isle of Wight. The aim was to survey and screen children for behavioural and emotional problems. The results showed that only 2.3% of the sampled population were identified with definite disorders and 24.1% had possible disorders. This brief children's behavioural scale for completion by teachers was an efficient and reliable screening device in identifying children with behavioural and emotional problems.

Further studies described measures for identification of problems in preschool children, however most of these measures were designed to assess socio-

emotional functioning related to mental retardation, autism or minimal brain dysfunction (King, Raynes, Tizard, 1971; Stringfield & Woodside, 1976; Tizard & Rees, 1975; Tizard & Tizard, 1971). These studies were not standardised and had small samples (<30).

At the same time, Behar & Stringfield, (1974) and Behar (1977) revised Rutter's CBQ scale to be used for screening 3-6 year old children in preschool settings - *the Preschool Behaviour Questionnaire (PBQ)*. It discriminated between disturbed and non-disturbed groups and was widely used in several experimental and epidemiological studies and surveys.

### **1.5.2 Epidemiological studies/surveys on emotional problems**

The epidemiological approach to the study of disorders plays an important role in determining the prevalence of disorder in a large population, showing the stability of the disorder and the associated feature and context in which the disorders occur. It measures problems as they occur in groups of people and provides a means for classifying children's disorders.

Armed with a variety of behavioural questionnaires and checklists to be used for identifying emotional and behavioural problems in young children (e.g. *Child Behavioural Questionnaire*: Rutter, 1967; *Preschool Behavioural Checklist*: Richman & McGuire, 1971; *Child Behavioural Profile*: Achenbach & Edelbrock, 1978; *Behaviour Problem Checklist*, Quay & Peterson, 1975) researchers and educators set out with the hopes of identifying and treating, either clinically or by educational intervention, children who were suffering from emotional and behavioural disorders. Additionally, several of these studies provided the basis for further experimental and non-experimental comparative studies, which will, in turn, be discussed.

In one epidemiological study, Richman and Graham, (1971) studied the prevalence rate of behavioural and emotional problems of three year olds in the total population in Waltham Forest, London. The sample was 705 families, randomly chosen over a twelve-month period. They wanted to know whether maternal deprivation, family relationships, parental health and the rate of development in language abilities were factors influencing behaviour in young children. The results identified 7% of the total population of children as having moderate-severe disturbance and 15% with mild problems. Children in the behaviour problem group were more likely to have language delays, depressed mothers and belong to families with financial problems. They were also

subjected to more hostility and less affection when tested at eight years. In other words, there was evidence that problems which were identified at three years of age were not merely transient problems associated with stress, but rather problems that persisted years later.

Epidemiological studies carried out on older children (Achenbach, 1987; McGee, Williams, Bradshaw, Chapel, Robins & Silva, 1984; Rutter, 1976; Yu-Feng, Yu Cun, Bo-Mei, Mei-Xieang & Lin, 1989) reported a wide variation in children identified with behavioural problems, i.e. low prevalence rates (Rutter, 1967; Yu-Feng et al., 1989) and particularly high prevalence rates in other samples (Kapci, 1990; McGee et al., 1984).

In America, Crowther, Bond & Rolf (1981) investigated the incidence of behavioural problems in younger children (2-5 years old) in day-care settings - *The Vermont Development Project* (N=558 with more males [320] than females [269] in the sample). The scale was a 90-item questionnaire developed by the staff to gather relevant behavioural and biographical data on the children - *The Vermont Behaviour Checklist, VBC*. The purpose of this research was to provide data on the prevalence of behavioural problems and their severity, i.e. external and internal behaviours previously identified by factor analysis in Behar's study (1974). They identified a prevalence rate of 20% on high externalised behaviours (aggressive/unsocialized) with boys accounting for the higher rate of identified problems when compared with girls. Several studies provided evidence to support sex differences associated with the incidence, prevalence and severity of behaviour problems of young children (Kapci, 1990; McGee et al., 1984; Rutter, 1966; Werry & Quay, 1971, cited in Crowther et al., 1981) confirm higher activity and aggressive behaviours of boys when compared with girls.

Another survey carried out in Turkey (Kapci, 1990) on 4-6 year olds, found a high prevalence rate of 29.2% in state and private nursery schools. Similar to other research findings, boys were identified as having more problems than girls, particularly in state schools. Teacher education and length of time in attendance at the nurseries had some effects on prevalence rates. Similarly in India, Singh (1991) found a 23.4% prevalence rate of children with problems using an adaptation of McGuire and Richman's Preschool Behaviour Checklist, i.e. cut-off point was statistically adjusted. Like Rutter, Achenbach, and others, Singh also found a rather low correlation between teacher and parent ratings. She would explain that the low agreement was due to different criteria and expectations in different settings.

Recently, Papatheodorou (1993) investigated the extent of behaviour problems of children in nursery schools across different regions in Greece (N=3091). She suggests that teachers' perceptions of children's emotional/behavioural problems are affected by geographic location, particularly for emotionally related problems. She found there was a range of prevalence rates across four main regions of Greece - from 9.3% in one rural-small town area to 14.6% in a densely populated city. Unexpectedly, the highest prevalence rate was in a remote/rural area, similar to what Yu-Feng et al. (1989) found in Beijing. The author suggests this high difference in prevalence rates is due to a combination of two factors: levels of adversity and levels of teacher's stress in the area. Apparently, teachers do not have access to better facilities found in urban areas and psychological services are unavailable. More pressing, however, are the economic difficulties in rural/remote areas where living standards are low. Papatheodorou concedes that her conclusions are tentative and calls for further research to validate her findings.

Overall, the aim of the epidemiological research mentioned has sought to identify within a cultural context, children with behavioural/emotional problems. Such research often serves as a general screening of a given population, identifying those at potential risk. It often serves as a framework on which to draw smaller samples for further investigative work. The methods used for this research are not experimental nor comparative. The evidence has not provided causal relations between preschool experience and children's emotional behaviour.

### **1.5.3 Comparative studies/experimental studies on the effects of preschool on emotional development**

All of the studies mentioned so far have focused on larger samples aimed to show prevalence of children with behaviour/emotional problems. Most of these studies have used reliable behaviour rating scales as a means of quantifying social and emotional behaviour in young children. Within some of these major works are smaller samples which aim to study comparisons between characteristics related to behavioural problems in preschool settings, i.e. interactions with peers, adults; family relationships; socio-economic backgrounds; sex, age and so on (Al-Jasser, 1990; Manning et al., 1978; McGuire & Richman, 1986; Singh, 1991). Different types of learning environments and their influence on the behavioural development of young children have also been demonstrated. While several of the studies to follow do

not show direct causal effects of preschool experience on emotional behaviour (that will be taken up with the experimental studies to follow afterwards), they do offer an abundance of important qualitative material that provides important links to understanding the nature and identity of emotional behaviour in young children.

Manning, Heron & Marshall (1978) explained children's behavioural disorders in terms of behaviour styles that were recognised throughout the child's early years of development. They suggest there are three behaviour styles: the *well-adjusted style* which is self-asserting, loving, and positive; the *aggressive style* which is dominating and fearsome; and the *dependent style* which is timid, anxious to please, sometimes violent, and fearful. According to Manning children who display aggressive and dependent styles of behaviour, demonstrate self-centered goals with little interest or regard for others. Both types are void of intimate friendly relationships and are basically, self-destructive. Other studies (Hartup & Keller, 1960; Jenkins, Box & Hart, 1980; McCandless, Bilous & Bennett, 1961; McGuire & Richman, 1986; Verhulst & Akkerhuis, 1989) showed that behaviour styles may be less fixed as children get older, therefore altering the identification of behavioural disorders at various age levels. In a study in North London, following children from six weeks old to 4 1/2 years old, Jenkins et al. (1980) found that children's behaviour problems changed over time (Baker, Davies & Stollard, 1982; Rutter, Tizard & Whitmore, 1976). For children under two year olds, sleeping and eating problems were more evident, while problems associated with temper and demanding attention tended to decrease with age. In Richman, Stevenson & Graham's longitudinal study (1982) on children identified with behavioural problems, they showed that aggressive and disturbing behaviours identified in 3-4 year olds persisted years later (assessed at 8 year olds). Early problems were good predictors of later problems, particularly conduct disorders.

In line with Manning et al. (1978), McGuire & Richman (1986) believed that behaviour problems in young children are present long before they enter preschool or day care (Osborn & Milbank, 1984). In a study which investigated different prevalence rates across three types of preschool settings (nursery classes, day nurseries and playgroups) McGuire and Richman (1986) found that there were significant differences between groups. Prevalence rates in day nurseries were ten times higher than in playgroups (34.9% and 3.3%). This high rate for day nursery attenders was much higher than previous studies on day nursery children (Chazan, Laing, Shackleton-Bailey & Jones, 1980: 12.5%; Clark & Cheyne, 1979: 7.9%). These disturbing findings on day nurseries, in

addition to previous studies (Bain & Barrett, 1980; Marshall, 1982; Gamblé & Zigler, 1984; Osborn & Milbank, 1987) suggested that attendance at day-care may aggravate behavioural problems, particularly aggression in young children. They also rekindled fears about maternal attachment which in some ways may have signalled further research which would consider more closely the affects of family and maternal characteristics as variables in future research models.

Similar to McGuire's (1986) design, Al-Jasser (1990) investigated the prevalence rate in three different nursery types in Saudi Arabia. She looked at social service nurseries, government nurseries and private nurseries on children from 3-6 years old (N=420). There was a 20% overall prevalence rate reported for the total sample, and prevalence rates in social service nurseries was 23%; private nurseries was 22%, and government nurseries reported 15%. The higher rates in social service nurseries may have been due to the area they served (lower socio-economic groups) and the families they served (no background information was provided) which would coincide with Papatheodorou's findings in Greece. Further information on the backgrounds of the participating families is needed in order to describe differences between groups. Boys were identified as having higher rates of behavioural problems when compared to girls, except in private nurseries, which may, again, reflect the differences in family backgrounds in these three samples.

Some comparative studies, mentioned were part of larger epidemiological studies, and they often had more than one aim. They were investigative and comparative and they also fulfilled the validation procedures necessary for standardising the instrument. Some of the research based on experimental designs that offered causal results between preschool experience and emotional behaviour, will be discussed.

One area of emotional development subjected to varied and often contradictory experimental results is the area of emotional adjustment. Recent evidence indicates that preschool care is not disruptive of the child's emotional bond with mother even when that care is initiated in the first year of life (Andersson, 1992; Hoffman, 1974, 1979; Howes & Olenik, 1986; Rubenstein & Howes, 1979). Also, there is no evidence to show that exposure to preschool care decreases the child's preference for the mother in comparison with an alternative caregiver (Farran & Ramey, 1977; Cummings, 1980; Ricciuti, 1976; Zigler & Hall, 1988; Andersson, 1989, 1992). Moskowitz, Schwarz & Corsini (1977) and Kagan (1976) reported that children with preschool experience were able to distance



themselves from their mothers and form meaningful social relations with others while away from their mothers. Andersson (1989,1992) followed Swedish children from their first year of life until age 13 and showed that children who had attended day-care performed significantly better on cognitive as well as socio-emotional measures when compared with non-attenders. Furthermore, children who attended day-care longer had the highest gains. In other words, not only did preschool attendance yield positive and significant gains on the cognitive, social and emotional development for children, but there was evidence to show that the more preschool experienced, the greater the benefits. Further support for preschool advantage was evidenced in a study conducted by Howes (1990). She found that children who entered low quality child-care had more difficulty with peers and were later rated by their kindergarten teachers as distractible and inconsiderate of others (used Achenbach's scales, CBC & CBI, 1981) when compared with the control group. The good news was that children who entered high-quality child care would show significant gains over the children in low quality care (and a follow-up group without early care experience) on socio-emotional behaviour measures. The overall prevalence rate of children with maladjustment was 4% which were found among the low-quality care group.

Richman, Stevenson & Graham (1982) did not find striking differences in their study when comparing preschool attenders with non-attenders on prevalence of behavioural problems, i.e. 13% for preschool attenders and 14% for non-attenders. Attenders were more likely to come from non-manual social class backgrounds (35% vs 28% from population), and they were largely found in playgroups (76%). Preschool attenders were found to differ significantly on language development measures, particularly expressive vocabulary, when compared with non-attenders (Stevenson & Ellis, 1975).

Osborn & Milbank (1987) investigated socio-emotional behaviour in a longitudinal cohort study and found that attendance at preschool institutions neither increased nor decreased the risk of behavioural problems for the five-year assessment, although children at day nurseries were more deviant than the other nursery groups (similarly found in Gamble & Zigler, 1986). At the ten-year assessment interval, children who did not attend preschool had the lowest scores whereas children who attended day nurseries received the higher mean scores on reading, maths and achievement tests. There are some reservations on these findings due to flaws in controlling and matching samples, i.e. day nurseries were the lowest socio-economic group with the highest social-problem-index score and the highest deprivation in family characteristics. In

contrast, a study on Turkish preschoolers compared with a home group (Kagitcibasi et al., 1988), showed that the home children (non-attenders) were more likely to engage in provoked aggression, either verbally ( $p < .01$ ) or physically ( $p < .04$ ) when compared to the children at educationally-orientated and custodial care preschools. Furthermore, mothers' ratings showed that the children at educationally-orientated preschools were more likely to have temper tantrums, while their counterparts at custodial care preschools were more likely to sulk. Attending preschool was clearly linked to less aggressive behaviours for children in this study. Furthermore, mothers who had received the mother training programme (HIPPY home intervention scheme, Lombard, 1988) tended to rate their children as less aggressive than those without training.

While some experimental studies showed long-lasting benefits in terms of emotional stability for preschool attenders, conversely, there was strong evidence that indicated behavioural disorders early in life were not temporary but rather predictive of future child behaviour (Richman et al., 1982; Rutter, Birch, Thomas & Chess, 1964). Robins (1966) suggested that children manifesting aggressive, antisocial patterns of behaviour were more likely to exhibit similar behaviours throughout childhood, adolescence and adulthood unless some type of treatment or family intervention was instituted. Aggressive behaviour in children would in fact become one of the strongest predictors of behaviour problems later in development. By example, Egeland, Kalkoske, Gottesman & Erickson (1989) investigated the developmental paths children followed to disordered behaviour. Their aim was to answer the question of whether the identified problems in the preschool years were temporary deviations from the norm or persisted later in school. This study investigated a subsample of children identified with behaviour problems in preschool and followed them to first, second and third grade levels. There was also a control sample who were identified as competent preschoolers. There were two behaviour rating scales (*Preschool Behaviour Questionnaire*, and the *Behaviour Preschool Scale*) along with a life-stress-index measure which was comprised of: a *Home Inventory Scale*, the *CED-D Depression Scale*, and the *Beck Depression Inventory* for second and third graders. Overall intelligence measures were taken using WISC and the WAIS for mothers (Wechsler's IQ scales). The results showed that preschoolers with problems were likely to have problems at first and second grades, particularly those related to withdrawal and acting out (Manning, Heron & Marshall, 1978; Richman et al., 1982). The authors believe that problems identified in preschoolers are not merely transient developmental phenomena but are sustaining problems which

children do not outgrow. These findings supported previous research by Campbell (1984, 1986), Richman et al. (1982) and Loeber (1982).

Generally, the research evidence supports the contention that preschool experience, particularly high quality care, has long term beneficial effects on the emotional behaviour and development of children. Also, different types of preschool care have varying effects on children's behaviour and emotional development. Furthermore, the evidence suggests that early identifiable behaviour problems in preschool age children are not temporary but continue well into later school life. Family characteristics, socio-economic backgrounds, sex, age and maternal characteristics seem to be important factors which play a critical and influencing role in children's emotional development.

#### **1.5.4 Factors influencing emotional behaviour**

A variety of factors influence emotional development. The way a child behaves/interacts in the preschool setting, home and community may depend upon several characteristics, i.e. social class, sex, age, type of programme, adult/teacher and peer interactions, maternal characteristics, paternal characteristics, family situations, stress, siblings. A few of these factors will be considered in this review (for further discussion on factors affecting preschool experience, see section. 1.6).

##### **1.5.4.1 Sex as a factor influencing emotional behaviour**

Considerable attention has been drawn to the behavioural differences between the sexes. Specific behaviour, such as over activity and aggression in groups are more often shown by preschool boys than girls (Behar & Springfield, 1974; Crowther et al., 1981; Kapci, 1990; Manning et al., 1978; Richman et al., 1982; Rutter, 1967; Smith & Connolly, 1980; Singh, 1991; Tizard, Philips, Plewis, 1976; Yu-Feng et al., 1989). Boys are more likely than girls to be identified as having conduct problems, while girls tend to have more emotional problems i.e., sensitivity, withdrawn, whines (Bekman, 1982; Chazan & Jackson, 1974; Rutter, 1970; McGee et al., 1984; Richman et al., 1982). Richman found that although boys were more overactive than girls ( $p < .02$ ) they were not reported as more difficult to control or have more temper tantrums or show poor concentration as was reported by Rutter in 1970. While the increase of disorders occurred for both sexes from the 3-4 year range, Richman claims there was a higher increase of problems for boys than for girls.

At day-care centres, boys have been identified as having more behavioural problems, more difficulty coping with frustration and more aggressive behaviours than girls (Crowther et al 1981; Gamble & Zigler, 1986). Some studies report that children, both boys and girls who have been in any sort of preschool facilities (Osborn & Milbank, 1987) or more particularly day-care (Schwarz et al., 1974) show increased rates of aggressive behaviour concurrently at home and later on at school (Rubenstein & Howes, 1979). Some feel that aggressive behaviour in boys may be exacerbated by staff responses. In some cases staff have been seen to give boys more attention for aggressive behaviour (Serbin, O'Leary, Kent & Tonick, 1973; Smith & Connolly, 1980) while girls were often reinforced in their behaviours if they stayed close by their teachers (Richman et al., 1982). Others claim that boys are more vulnerable to psychological stress and actually have experienced more separation anxiety from their mothers than girls (Bowlby, 1973; Hetherington, Cox & Cox, 1976; Rutter, 1970). Gove and Herb (1974) claimed that boys are more vulnerable to psychological stress and biological illnesses that are influenced by socio-economic and parental factors, than girls. While the research clearly shows distinct gender differences on emotional/behavioural outcomes, the evidence appears inconclusive regarding the basis of gender differences, i.e. genetically predisposed; a by-product of sociocultural influences; a combination of the two?

#### 1.5.4.2 Teacher education and experience as factors influencing emotional behaviour

Differences in teachers' educational backgrounds and teaching experience have also been shown to influence variations in rates of deviant psychological development. Kapci (1990) found that teachers in Turkey with less than a year of teaching experience were just as competent as experienced teachers of ten years or more in observing children with and without behavioural problems. In contrast, studies by Lynn (1989) and Al-Jasser (1990) consistently show a correlation between lower prevalence rates recorded in classrooms with teachers having more experience. Furthermore, it was the teachers with more education who tended to identify more children with behavioural/emotional problems. Teacher experience and education may also be influenced by the length of time the child is in attendance. Teachers who know children longer are more likely to rate them as having behavioural/ emotional problems (Kapci, 1990) although findings are inconclusive.

#### 1.5.4.3 Age as a factor influencing emotional behaviour

Age is an important variable in identifying, explaining and predicting the process and course of emotional/behavioural development. Expectedly, younger children, less than two years tend to show behavioural problems related to enuresis, whining, eating and crying (Jenkins et al., 1980; McGuire et al., 1986; Rutter et al., 1982). While some studies indicate that children's behavioural problems decrease with age (Al-Jasser, 1990) others clearly show that once a child's behaviour is established in a maladaptive pattern, it is unlikely that such behaviours will change over time. Even children identified with slight behavioural problems at preschool age are at increased risk for developing behavioural and emotional problems later at school (Egeland et al., 1989; Howes, 1990; Tizard & Rees, 1975; Verhulst & Akkerhuis, 1989). A more realistic view, possibly, is one that carefully distinguishes between specific behavioural disorders that tend to vary with age. For example, high proportions of children with behavioural problems have been found in language delayed groups who later go on to have particular difficulties in learning to read and write (Ingram, 1988; Jenkins et al., 1980; Rutter, 1970; Stevenson & Ellis, 1975). In another example comparing two age groups (6-11 and 12-16) of American and Dutch boys, Achenbach showed that older boys tended to be less aggressive, yet more withdrawn, somatic and uncommunicative than younger boys identified with behavioural problems (1987).

#### 1.5.4.4 Some characteristics of maternal behaviour influencing emotional behaviour

There is a growing body of research which strongly suggests that mother's perceptions and behaviours are strongly linked to children's emotional behaviour and development. For example, problem children identified by Richman et al. (1982) were more likely to suffer maternal deprivation besides financial and housing problems. Mothers of children with behavioural problems were more likely to show signs of psychological disorder, especially depression and anxiety. They were also characterized by marital discord and negative attitudes from parents to the child. These findings were reported for both the behaviour problem groups from the larger population and the subsampled preschool groups. Barron & Earls (1984) found a similar support model where behaviour problems were indirectly affected by family stress but more directly linked to temperament and parent-child interaction. Werner and Smith (1982)

pointed out that regardless of stress factors in the young child's home life, chances of a positive outcome were greater if the child received plenty of the attention from the primary caregiver, particularly during the first year of life (1982).

In preschool settings, Denham, Renwick & Holt (1991) demonstrated that mothers who showed interest, support and ability at being positive and allowing for autonomy with their children were more likely to have emotionally stable preschoolers. Howes & Olenick (1986) found that children who were rated as being more emotionally stable were those who attended high quality care centres combined with low family stress factors and parents who were 'involved' and 'invested' in their children's lives (involved and invested are categorical variables which comprise many factors-see Howes). For some time it has been recognised that depressed mothers have more negative perceptions of their children and are more engaged in aversive parenting behaviour than non-depressed mothers (Pannaccione & Wahler & Wahler, 1986). In addition, children who are referred to clinics tend to have more depressed mothers and these mothers tend to perceive their children as having more maladjustment than non-referred clinic children (Friedlander, Weiss & Traylor, 1986).

Some research has looked at how mothers rated their children's behaviour and found that as the mother's depression increased there was a tendency to rate more aggressive behaviour in children, particularly for boys (Emery & O'Leary, 1982; Lancaster, Prior & Adler, 1989). Independent ratings based on mother's temperament were also found to account for some of the variance reported for hostile/aggressive behaviour. Lancaster, Prior & Adler (1989) believe that how the mother perceives the child is likely to be both a cause and effect of her interaction with the child and often all that is needed to improve symptomatic problems in the child is to treat the mother.

While there may be little argument with the important role maternal behaviour plays in children's emotional development, the accuracy and competence of mothers' ratings of their children's behaviour have been subject for investigation. When parent ratings have been compared with teacher ratings, there have been conflicting findings. Touliatos & Lindholm (1981) found a correlation of  $r=.28$  between mothers and teachers who rated the *Behar Behaviour Checklist* (N=1008). Reported low-to-moderate agreement between parent and teacher ratings were also reported by McGee et al. (1985, 0.35); Rutter et al. (1970, 0.18); Miller (1964, 0.26); Achenbach & Edelbrock (1978, 0.44).

Verhulst & Akkerhuis (1989) looked at over 1100 reports of behaviour/emotional problems by teachers and parents (4-12 years). They found low-to-moderate agreement with parents reporting more problems than teachers. Agreements tended to be higher for externalising behaviours and children receiving special education and for older children. Teachers were more inclined to score children higher on problems related to peer interactions and problems related to academic performance, while parents scored their children more on aggressive/conduct behaviours. Yet several studies have shown that teachers are 'reliable' reporters of children's emotional problems (Croll & Moses, 1985; Behar & Stringfield, 1974; Miller, 1981) and particularly better raters than children's peers (Rubin & Clark, 1983). Yet when such reliable ratings were correlated with parent reports, mental health workers reports and observer reports, the correlations have been very low ( $r=0.24-0.44$ ; Achenbach, Verhulst, Baron & Althaus, 1987). Some suggest that the low agreements do not reflect poor reliability of teachers but rather the cross-situational variability of children's behaviour and the different expectations of different informants (Singh, 1991).

In view of the previous factors considered which seem to influence both parent and teacher ratings of children's problems, it seems that low correlations are critically important, particularly when we consider that they often serve as a basis upon which diagnosis and treatment rests. Verhulst & Akkerhuis suggest that instead of 'discarding this problem by focusing on only one informant we need to determine the significance of agreements as well as disagreements between different informant judgements as well as devising rules for integrating this complex information' (1989).

Only a few of the many factors shown to influence emotional behaviour on young children have been discussed here, and they do not reflect any greater or less importance than those not mentioned. Further discussion of factors affecting child development are discussed in detail in the following section 1.6, *Some Factors Which Affect the Nature of Preschool Education*.

Discerning and interpreting the evidence discussed on children's emotional behaviour as an outcome measurement for preschool education is not a straight forward task. While there appears evidence to support a causal link between preschool education and emotional development, results have been largely, based on checklist-assessments - a partial assessment of emotional stability and behaviour (Colmar, 1988). Often checklists have indistinguishable behaviours that cross-over into the social and personality domains. More

worrying are the low agreement ratings between those adults administering them - teachers and mothers (Achenbach et al., 1978). Accounting for these limitations, the findings have clearly shown that good quality preschool experience can lead to significant gains in terms of emotional behaviour. The long-term benefits owed to quality preschool practice on emotional behaviour are less clear. It is argued by some that high quality preschool practice instils positive effects on children's attitudes and behaviours that are manifested in practical 'life skills' at a later stage of development (Schweinhart et al., 1993).

## **1.6 Environment and child factors which influence the nature of children's preschool experience**

Several important factors influence the multi-network of interactions in the preschool learning environment. Some of these are the actual features of the preschool centres (teacher behaviour and attitude; structure/environment of the preschool centre; staff/child ratio; physical environment; materials and apparatus) and the characteristics of the children themselves (their social, cultural, economic class backgrounds, sex, personality, cognition, language, family position and maternal behaviours).

### **1.6.1 Features of the preschool centres**

#### **1.6.1.1 Variables of teachers behaviour**

The importance of the role of teachers in the preschool settings has been given considerable attention. It is a diverse role, as an educator, team leader, facilitator and a participator to ensure that the needs of every child are met. A teacher's behaviour in the classroom varies according to the methods employed, the cultural-geographical location, degree and scope of interests generated and the ideals, goals and values. The adult brings to the situation his/her own particular strengths and skills (Curtis, 1986). Preferably, that role should be a process of continual improvement and change and one that takes in self-assessment, analysis and constructive criticism (Wood, McMahan, Cranstoun, 1980; Sylva et al., 1985; Sylva, 1994). A teacher's ability to understand, direct and know when to intervene in each child's progress is a difficult undertaking which requires skill, knowledge and experience (Bruner 1980; Isaacs, 1954; Montessori, 1936).



Early studies which looked at teacher behaviour focused on teaching methods which generally followed an adult-directed model (McLure, 1936; Thompson, 1944). Classroom structures and activities were often geared around the teacher's style of approach and the techniques employed for management. Reichenberg-Hackett (1962) investigated several teacher variables in two types of preschool settings, educationally oriented and custodial/care-oriented settings (N=10). Four of the centres serviced Afro-American children and six centres serviced Caucasian children. Systematic observations recorded in both settings during 'free play' sessions showed that teacher 'approach' and management practices varied between groups. While both groups had high percentages of time engaged in non-interactive, 'neutral' behaviour for teachers, there was more conversation and teacher interaction in the educationally-oriented centres than the care centres. Both groups stressed conformity in teaching management practices with rigid timetabled schedules adhered to throughout the day. There was no indication that socio-economic status or race played a decisive role in nursery groups with regards to teacher management practices. Several examples of inappropriate teachers' behaviours are illustrated in this study which are evident in the different management styles in preschool settings.

Current research confirms these findings (Bryant, Harris & Newton, 1980; Hutt et al., 1988; Mayall & Petrie, 1983). According to Wood, McMahon and Cranstoun (1980) when teachers willfully shifted their teaching styles from an adult-dominated role to a spectator/facilitator role, they realised that too much time had been spent on controlling children and not enough time was spent on observing, listening and conversing with them. The teacher-spectator role fostered more attentive listening and less unnecessary intervention and redundant talk with children. Similarly, the teacher trainees of the High/Scope programme (Sylva et al., 1985; Weikart, 1987) concluded that when they were actively involved and listened more attentively, children performed better. Results from Richman and McGuire's study (1988) also supported the importance of staff attention to children's activities, rather than managerial tasks. Their findings indicated that where staff were confident and took part in nursery activities, children were less aggressive. Teaching styles and nursery organisation practices were seen as clearly related to staff behaviour, affecting the levels and quality of adult-child interaction.

The main conclusion that emerges from these studies and several others (Bain & Barnett, 1980; Davie, Hutt, Vincent & Mason, 1988; Ferri, Birchall, Gingell & Gipps, 1981) is that without some type of training intervention programme, teacher interactions in the preschool environment are mainly dictated by a number of personal management styles which may or may not be beneficial for the child. A recent report suggests that teachers should use a host of teaching styles which meet the child's needs and interests, and subject matter (David, Curtis & Siraj-Blatchford, 1992). It's what Mortimore (1992) has called the 'fitness for purpose' which challenges teachers to orchestrate the learning/teaching experiences in the classroom by directing, interpreting, evaluating and creating to meet individual/ group needs and potential.

For some time, educators, practitioners and researchers have earnestly sought to improve teacher organisational skills and styles and assess the structure of programmes. These efforts had a direct bearing on teacher's behaviours. In the early 1970's and 80's, research evidence mounted in support of 'less structured environments' for preschool children (Beller, 1973; Fagot, 1973; Flanders, 1970; Tizard, Philips & Plewis, 1976). Less-structured environments refer to preschool practices that promote more active child-centered approaches with a skilled (well trained staff) balance of time devoted to child-initiated activities and adult-directed activities. Apparently children learned more, cognitively and socially in less-structured environments where teachers encouraged autonomous behaviour (Berrueta-Clement et al., 1984; Beller, 1973; Curtis, 1987; Lally, 1991; Kagitcibasi, Sunar & Bekman, 1988; King, Raynes & Tizard, 1971; Lloyd, 1983; Schweinhart et al., 1993; Smith & Simon, 1984; Tizard & Tizard, 1970). Less-structured/child-centered programmes that encouraged open student enquiry, challenge and guided teaching strategies meant more gains for children and teachers (Jowett & Sylva, 1986; Sylva et al., 1980; Sylva, Smith & Moore, 1985; Weikart, 1987). Where the evidence clearly shows the benefits of less structured practices, the practical application of these findings are currently debated. The transition from formal to less-structured environments poses many issues and questions, e.g. How do we train teachers in 'quality' interaction? What is the 'appropriate' balance for combining educational/care practices in less-structured environments? What are the qualifications teachers need in the varying types of preschool provision/care? It will be some time before the evidence is tallied as to what works best for which type of provision considering its social and cultural context (Katz, 1993b; Tizard et al., 1988; Weikart, 1994).

### 1.6.1.2 Interaction between teacher and child

The degree and nature of teacher-child interactions in preschool settings varies considerably. Different establishments often reflect different staff expectations and involvement. Most centres adopt a variety of teacher roles. In some settings, teachers are often called upon to intervene a great deal while at other times they maintain a non-participant role. Generally, it is believed that programmes which offer active-guided adult participation are more beneficial than those where adults adopt an essentially passive role acting as caretakers (Ball, 1994; David cited in Pugh, 1992; Schweinhart et al, 1993; Sylva et al., 1985).

Several studies have demonstrated that it is not only a matter of how much (quantity) the adult interacts with the child, but importantly, how (quality) that interaction takes place, i.e. has it proved to be beneficial - promote, nurture, challenge thought/activity? Quality seems to depend, to some extent upon the allocation of teacher's responsibilities (Bruner, 1980; David, Curtis & Siraj-Blatchford, 1992; Moss, 1994; Sylva et al., 1989); the teacher's socio-economic backgrounds (Bekman, 1982; Howes et al., 1985; Tizard et al., 1976); and teacher qualifications, i.e. training, education, experience (Curtis, 1986; Lamb et al., 1992; Pascal, 1993; Vandell et al., 1988; Wolfendale, 1983; Zigler et al., 1988). Research shows that children entering school often come with different stocks of knowledge and language abilities which should not be interpreted as deficient or defective (Wood, 1988). Drawing conclusions or labelling a child's educational potential on the basis of how the child speaks or behaves can be misleading and cause damaging effects (self-fulfilling prophecies). Research based on observational data have shown that when adults do interact with children they are more likely to engage in challenging tasks which promote cognitive and social gains. Additionally, when parents are actively involved in teaching, the child benefits intellectually and socially (Martlew, 1980; Sylva, 1994; Wolfendale, 1983).

Adult/child interaction must also take into account the many social factors which influence the child's life at preschool, i.e. social, economic, cultural, and familial. It is common knowledge that children as young as three years have developed an understanding of social class differences (Tough, 1977), a linguistic behaviour, mainly, influenced by parental behaviours and educational backgrounds (Bernstein, 1971; Hess & Shipman, 1965), an awareness between the knowledge and language practised at school versus that at home

(Clark, 1988; Donaldson, 1978; Tizard & Hughes, 1984); and the ability to move appropriately within a designated learning environment (Cratty, 1979, 1985; Gallahue, 1982).

Unfortunately, most research shows that there is very little dialogue between teachers and children at preschool settings. Teachers spend the majority of their time 'instructing', not conversing in a rich productive manner (Davie et al., 1984; Hutt et al., 1989; Sylva et al., 1980; Tizard et al., 1988). Evidence shows that when teachers do instruct it is often in question-type format with high occurrences of one-off remarks (Tizard & Hughes, 1984). Furthermore, these questions and remarks are often redundant ones which the teacher either knows the answer for or answers, herself (Wood & Wood, 1983). In contrast, the conversation at home between parent and child is more fluent and rich in quality. Possibly, educators need to pay more attention to those aspects at home which foster and promote more meaningful adult/child interaction and use them in preschool environments (Tizard & Hughes, 1984).

#### 1.6.1.3 Environment

##### 1.6.1.3.1 The ethos of the preschool environment

Different ethos shape the environments which lead to differences in the quality and quantity of preschool experience, e.g. adult/child interaction and children's behaviour. Some define ethos in terms of practices often dichotomising into 'orientations' e.g. adult-directed, child-centred, free-play, and so on. While organisational structure of the programme is important, it does not fully describe the ethos of preschool environments. The strength or weakness of the ethos of a preschool environment is defined in terms of more subtle features such as teacher attitudes and values, styles of teaching practice, understanding and respect for individual differences in learning, and views regarding children's potential which are based on skill, experience, common sense and knowledge of child development. These features of the ethos of the environment are key determinants which provide distinctions between demonstrated 'quality' in preschool environments. For example, sometimes we observe two preschool centres which 'appear' to offer the same programme, curriculum and facilities yet at one centre children not only perform better but the adults are more involved. While both centres seem similar, in fact they are quite different in terms of adult/child interaction and children's behaviour. Looking closer we may find that teachers at high quality centres promote imaginative, challenging

play in all social settings (solitary, parallel, pairs, groups) which are skillfully planned and organised to allow for a balance between periods of rest and play; activity and calm; participation and solitude. They also understand the delicate nature of intervening in children's play and realise that their intervention may either facilitate learning or work as a 'barrier' (Lally, 1991; Montessori, 1954).

Several features go into the ethos of a preschool environment which are only beginning to be recognised as important criteria in establishing guidelines for quality preschool practice. At present, there is a growing body of research which indicates that features found in the ethos of preschool environments are key 'quality' indicators of good practice which results in benefits for children's development (Ball, 1994; Fiene & Melnick, 1989; Howes et al., 1992; Katz, 1993b; Kontos & Fiene, 1985, NAEYC, 1991; Reifel, 1993). Environments that maintain high quality profiles, depend upon a set of principles that underpin these features mentioned (described in detail in section, 1.1.4.1, *Principles and Beliefs Underpinning Goals*) which have shown to be effective descriptors of quality child-care practice.

#### 1.6.1.3.2 Staff/child ratios

An important index of a programme's potential value is the staff-child ratio. Its relationship has a direct effect on teacher behaviour and competence; on cognitive, social and emotional development for the child; on language development of the child; funding; and the quality of the centre. This seems to be the case in all types of programmes.

A large study from the US found that preschoolers in day-care who attended classrooms with higher teacher/child ratios performed better on kindergarten and first-grade readiness tests (Ruopp, Travers, Glantz & Coelen, 1979). Howes and Olenick (1986) reported that when poor staff/ratio is combined with poor teacher training and high staff turnover in day-care centres children who are less compliant and more impulsive. Staff/child ratio was considered an important quality factor in accounting for increased scores on social competence measures in a longitudinal study conducted by Vandell, Henderson, and Wilson (1988). Similarly, Zigler and his colleagues have repeatedly shown that children performed better on all measures when the ratio of teachers to children was high 1:6, when compared with ratios of 1:12. More recently, Field (1991) using two longitudinal studies, investigated the relations between attendance in quality day-care programmes and grade school performance and behaviour. She found grade school children benefit

on aspects of social competence (more physical affection during peer interactions); self esteem and cognitive skills (higher math grades) when children have attended high quality provision where teacher/child ratios are high (1:4).

Some studies have supported the contention that the more adults, the better the centre (O'Connor, 1975; Smith & Connolly, 1976; Tizard, 1970). The position is that centres with 'high' staff ratios are able to offer more educational experiences, more conversations between children/adults and more challenging play (Bruner, 1980) e.g. centres with good staff/child ratios are 1:8; 1:9; 1:10, and centres with excellent ratios are 1:7; 1:6; 1:5 for 3-5 year olds. The claim is that structure, intimacy and staffing ratio seem, in the main, to matter more than whether the place is called a playgroup, a nursery class, or a nursery school. Unfortunately, numbers (ratios) by themselves do not describe what (whom) they represent and are often misleading. Often, ratios include staff who are not qualified teachers but aides, assistants, or staff that service the maintenance of preschool centres. It is often difficult to know exactly how many qualified staff members are actually accounted for in 'good' ratio figures. David (1990) suggests that smaller numbers (reducing staff/child ratios) may reduce effectiveness if they begin to interact with each other more frequently than with the children. 'Care must be taken not to equate structuring with more direction by the adults,' (David, 1990; Murphy, 1980; Murphy & Wilkinson, 1982).

In a recent publication, Ball (1994) specifies a rule of thumb measure for calculating the appropriate ratio in preschool provision as 'one trained adult to the number of children equivalent to double their average age' p.29. The Perry Preschool Project had 4 adults for 20-25 children (Weikart, 1994). While some programmes vary considerably on ratio it is important to insist on the number which provides close and effective contact and interaction. DES allows 1:13 with trained teachers and DOH requires 1:8 with playgroup leaders

#### 1.6.1.3.3 Physical environment of the centre

The physical lay-out of preschool environments has often been defined in terms of learning or play areas, i.e. quiet corner (books); rough and tumble area (larger open spaces); hands-on corner (crafts, play-dough; modelling clay, etc.); small construction material corner (small scale construction toys); large block area; the 'messy' area e.g. clay, paint, junk modelling ; a home corner (pretend play); a language centre (writing area); and so on.

A fundamental and essential need for all children in early learning settings is the need for space (Cratty, 1985; Curtis, 1986; Gallahue, 1982; Isaacs, 1954; McMillan, 1911; Montessori, 1967; Smith and Connolly, 1980). This has become increasingly important in light of the increase of families living in overcrowded conditions, e.g. high rise apartments often with inadequate and safe outdoor play areas for children. Increasing demands on staff to be imaginative and creative with the utilisation of indoor and outdoor space at preschool centres can often be exasperating and exhausting, e.g. child-care provision such as playgroups and family day-care centres often are housed in facilities which must serve dual functions.

The amount and quality of materials and apparatus in a preschool setting has often defined the ecology of space utilised. For example, slides and climbing apparatus are related to rough and tumble play (Jones, 1972); dolls, dress-up and home corners tend to elicit fantasy and pretend play (Shure, 1963); small scale manipulative toys seem to promote higher concentration and cognitive challenge for children (Sylva et al., 1980); heightened social interaction is most often found in block areas (Shure, 1963); and fantasy and pretend play is often found in out of way corners (Bruner, 1980).

The type and extent of facilities available in the preschool setting appear to also affect the incidence of particular types of social behaviour. Tizard, Philps and Plewis, (1976) when studying non-directed play in twelve preschools (109 children) found that 41% of all symbolic play involved domestic and family role themes (mothers and babies, tea parties, etc.) and pretending to shoot or kill raised that figure to 60%. Interestingly this was recorded where children used virtually little, if any material or apparatus. Indoors, children were found to use play materials in a 'partial' manner (e.g. indiscriminately digs sand with no construction, daubs at paint with design or shape) rather than using materials in an 'appropriate' or 'symbolic' manner. Children played on their own more and their games were shorter and less complex. Outdoors, children talked more to each other, yet both teachers and children addressed each other less outdoors than indoors.

A planned and rich outdoor space for children has long been stressed as essential for a complete early years learning programme. Not only do children require space to run, chase, cycle, climb and huddle around, but they also need natural elements to investigate, explore and experiment in. Maria Montessori (1936;1949) and Rudolf Steiner (cited in Hemleben, 1975; Britz-Crecelius, 1972) both have stressed the heightened awareness and sensitivity that

children gain as a result of been involved in the nurture of plant and animal life at the preschool level (e.g. outdoor gardening; scientific exploration into life cycles; astrology and astronomy).

### **1.6.2 Characteristics of the children**

#### **1.6.2.1 Sex/gender differences**

Henshall and McGuire (1986) differentiate between the terms sex and gender. Sex refers to the biological distinctions between males and females and the term gender refers to 'all aspects of being male and female that are not directly related to this biological division', namely cognitive and behavioural differences between males and females. Furthermore, sex, here does not determine gender as Money, Hampson and Hampson (1957) demonstrated on studies carried on match pairs of hermaphrodites of the same sex which were assigned different sexes at birth. Further studies by Money et al. (1972, 1977) supported the idea that the psycho sexual identity of the human being is established more by rearing influences than by biological sex, i.e. 'human beings are wired, but not programmed for gender.'

For the sake of clarity in this discussion, the differences between males and females will consider environmental determinants as well as biological ones and the terms, sex, gender and psycho sexual will be used synonymously.

There is considerable evidence to show that sex differences are socialised differently from birth on with consequent differences in behaviour. The behaviour expected of individuals within a society is determined to a large extent by their sex. The perception children have of themselves with respect to gender is largely determined by rearing practices and this usually develops parallel with the biological and social determinants of that sex.

Several studies support the contention that the roots of role differentiation by sex in children's behaviour begins with parents, i.e. in the home (Adams & Laurikietis, 1976; Kagitcibasi et al., 1988; Block, 1978; Davies, 1984; Browne & France, 1986; Kagan, 1976, 1980; Kohlberg 1966; Lewin & Chanamie, 1972; McGuire & Richman, 1986b; Money & Ehrhardt, 1972; Moss, 1967; Thomas, 1986 Whyte, 1983). Parents also have tendencies to support stereotyping sex roles in the toys they offer their offspring. Rheingold and Cook (1975) found that boys were given significantly more cars, aeroplanes, and objects which encouraged



activities away from home, while girls received more dolls and objects that directed them in the home and caring for children. Parents were also found to be more directive and strategy orientated with sons while they gave daughters more concrete instructions. Wells (1983) compared parent initiated conversations with three year olds and found that the conversations with girls largely related to household activities while conversations with boys were more likely to be in situations where boys were engaged in exploratory play.

Davies (1984) claims that there are two major influences which affect sex-role stereotyping: home rearing practices and mass media. His findings show that children's literature and television programmes are often 'loaded' with sex-typed messages, both at school and at home (Adams & Laurikietis, 1976; Busby, 1975; Jennings, 1975; Unger, 1980). Furthermore the media, particularly for boys, inculcates violence and aggression for males (Heeley, 1983) and passive, victimised-roles for girls (Lefkowitz et al., 1977).

The way adults and parents dress their children has strong impetus for defining the different patterns of sex behaviour. Dressing girls in dresses and pretty garb has been shown to be restrictive in terms of motor activities. More durable clothing for boys leaves little room for aesthetic expression. Consequently, terms like, 'androgynous' and 'unisex' have appeared to describe the change in sex-typing and societal values. But despite there long time stay, sex typed differences in dress are more often preferred by parents and insisted upon in schools (Thomas, 1986).

#### 1.6.2.1.1 Sex/gender differences in the preschool setting

Various studies reporting sex differences in early learning environments have focused on observations of children in play activity. Evidence seems to suggest that children largely select toys and engage in sex-typed play behaviours which are determined by their gender roles. Often the child's preferred preferences are a carry over of well established roles encouraged by parents at home. In one study Thomas (1986) observed that boys used more construction toys, bicycles, balls, than girls did. On the other hand girls were more likely to use the home corner, play with dough, and use manipulative activities likes sewing and figure crafts than boys. Earlier studies have mirrored similar findings with larger samples (Bekman, 1977; Clark, Wyon & Richards, 1969, Erickson, 1951; Fagot, 1973, Tizard et al., 1976).

Henshall and McGuire (1986) contend that many of the studies which have focused on gender differences in play often pay little attention to the contextual effects, e.g. factors that affect the pattern of gender differences. Often overlooked is the fact that many toys are used equally by both boys and girls, as a study by Fagot (1973) has demonstrated. In one study, Clark et al. (1969) found that less than 20% of the total time children played with toys was accounted for by their own gender. This suggests that gender differences do not denote gender preferences. According to Henshall and McGuire, studies which report significant differences often establish only small differences between males' and females' behaviour which often leads to contradictions. Therefore, one must scrutinise not just results, but the actual context for such results.

Children's learning styles, according to Whyte (1983) become more pronounced in relation to sex/gender differences as they are processed through the school system. Boy's learning styles are often independent, confident, active and demanding, while girl's are more passive with few teacher demands for attention and less confidence in science and mathematics than boy's (Dweck & Leggett, 1988). Of particular importance is what Whyte (and others) have coined 'the hidden curriculum'; one which reinforces traditional sex-role stereotypes and exacerbates the polarisation of the sexes. In part, these studies may help in explaining why boys do better on spatial ability tasks (Corsi Block Tapping test; Porteus Maze, 1965; Conservation tasks, Inhelder & Piaget, 1956) and mathematical tasks while girls tend to do better on tests of verbal ability. Others believe that such cognitive differences may be linked to genetic differences of the sexes (O'Connor, 1943) or to an hormonal imbalance (MacDonald, 1984), e.g. Turner's syndrome. According to Levy (1974) and McGlone (1980) the distinction between verbal and spatial abilities in boys and girls may be due to brain organisation (cerebral hemispheres of the brain are organised differently for each sex), rendering females superior in verbal skills and males in spatial abilities.

Differences by sex observed in children at play have been reported in several sources and have been mentioned in the context of the developmental domain discussed.

#### 1.6.2.1.2 Sex differences related to adult-child interactions In preschool settings

Gender differences found between adult/child interactions in the preschool are not inconsistent with the sex roles practised and encouraged at home. Often one is merely an extension of the other and both are predominantly affected by the larger social associations of sex-typing. Thomas (1986) found that although teachers (all women) when interviewed agreed that it was important that both boys and girls be given equal opportunities at school, in practice they did not readily encourage girls to play in 'messy' activities, e.g. described prams as wheelbarrows when boys used them and when girls used them they were seen for their more domestic use; and agreed boys played rougher than girls. Thomas explains that teachers did not find it difficult to blame the stereotyping on the parent's rearing at home.

Girls have been reported to initiate more interactions with staff, while boys have been shown to seek staff out to settle disputes (Thompson & Guisec, 1973). Girls, also, continue to interact with teachers, while boys tend to interact less with staff as their age increases. Whether girls do so because they are less confident (Whyte, 1983); perceive more stress in their lives than boys (Dweck & Bush, 1976); are emotionally more labile than boys; or simply seek out prosocial female interests (most teachers are female), is uncertain (Hagglund, 1991).

In Sweden, Ohrn (1992) concluded in a summary of research on classroom interaction that teacher's treatment of children's performance may be gender biased. Teachers were found to pay more attention to boys even when they were being quiet in class. It has also been suggested that aggressive behaviour in boys is exacerbated by staff responses. In some cases staff have been observed to give boys more attention for aggressive behaviour (Serbin, O'Leary, Kent & Tonick, 1973). The influence of peers has also been shown to be related to possible aggressive behaviours, such as fighting with boys (Fagot, 1973).

#### 1.6.2.1.3 Sex differences related to aggression and dependence

Research evidence from several studies which have investigated the prevalence rates of behavioural/emotional problems in preschool settings support these differences in behaviours for boys and girls (Achenbach, 1987; McGuire & Richman, 1986; Rutter, 1967; Tizard & Rees, 1975). In most of these

studies boys were found to have the higher prevalence rate of emotional/behavioural problems. Specific behaviours such as over activity and aggression in groups are more often reported by preschool boys than girls (Manning et al., 1978; Tizard et al., 1976). Boys were also found to more likely to get into fights, be destructive, difficult to manage, and lack concentration when compared with girls (McGuire et al., 1986). On the other hand girls were more often described as inactive, withdrawn and unsociable with peers.

Embedded in the development of gender identity is the idea that children are actively and continuously constructing and reconstructing the concept of gender. Gender is not merely another variable to be accounted for, but rather is associated with sets of value systems, ideas and practices which are culture and setting bound (Duveen & Lloyd, 1989).

#### 1.6.2.2 Social class differences

##### 1.6.2.2.1 At home

"The classification of social class is one of the most powerful descriptive tools in the social scientist's armoury. The basic framework of a child's life - from her chance of surviving her first year of life to the age at which she is likely to marry, the number of children she is likely to have, and her chance of dying from various diseases-is strongly related to her social class....every aspect of childrearing, from the likelihood of children sucking their thumbs to the kind of punishment they receive, is related to social class." (Tizard & Hughes, 1984, p.4).

Children are born into the same culture and class as their parents, participate in its social activity and learn from the models around them or through specific training by the parents to act appropriately within their own group. Child rearing practices, particularly in light of social class, therefore, have a strong influence on children's behaviour and development. Predominantly, most studies which have looked at the relationship of social class on characteristics of child rearing practices, use the occupation of the father as the chief index for determining social class status.

Earlier studies (Elder & Bowerman, 1963; Hoffman, 1963, Kohn, 1972) found that working class mothers shout more and use more physical punishment while disciplining their children whereas middle-class parents were more likely to use reasoning and warmth when responding to children. Another study which asked mothers from different social classes to teach or explain tasks to their children found that middle-class mothers taught more effectively using

more explicit language than the working-class mothers (Hess & Shipman, 1965). According to Davie both middle and working class parents provided their children with toys and equally spent as much time talking and interacting with them (1979). Differences between classes were noted in more qualitative measures, such as, middle-class parents bought more educational toys, had more books, and engaged more in preschool academic skills than working-class parents.

When we look to the research investigating language in the homes, the findings are illuminating. For some time it was believed that children in working-class homes were rarely talked to e.g. conversation was dull and lacked elaboration (Bernstein, 1960). Labov (1969) argued that lower class ghetto children were found to be growing up in rich verbal cultures and were not receiving inadequate language stimulation at home. Tizard and Hughes (1984) examined language across school and home and demonstrated similar class differences. The differences between working-class and middle-class children was not due to language deficiencies, but rather the language style and educational approach (IQ's were quite different between groups: Stanford Binet: averages, 122 middle/class and 106 working/class: all girl sample). Both groups of mothers spent equal time playing and conversing with their children, although working-class mothers seemed more geared towards having their daughters focus on domestic skills. In keeping with earlier findings by Tough (1976) and Hutt (1979) middle-class mothers used language for more complex purposes and more frequently than working-class mothers. Parental expectations are also related to social class differences. Some studies have found that middle-class parents hold higher expectations for success than lower class parents (Kohn, 1963), while other studies find little variation in parental expectation in terms of social class (Cohen & Cohen, 1988; Tizard et al., 1975).

#### 1.6.2.2.2 Social class differences in preschool settings

In preschool settings middle-class children engage more frequently in higher quality play when compared with working-class children in preschool settings. Smilansky (1968) and Tizard et al. (1976a) both report that children from lower socio-economic backgrounds tend to play much less in dramatic play than middle-class children, although observed dramatic play accounted for a very low percentage of total play time. Bekman (1977) found that Turkish preschool children tend to demonstrate similar behaviours associated with social class. There was more parallel play and partial use of play material for working class

children when compared to middle-class children. Obviously these findings should be considered within the different cultural context of preschool settings. Other studies using revised versions of Parten's (1932) scale of social participation skills have queried the assumptions that parallel play shows more social maturity than other forms of play behaviour, for example, solitary play (Smith, 1978; Rubin et al., 1976). In a more recent study in Canada, Wintre (1989) looked at the social play behaviour of 54 children divided equally into two different classes (half upper-middle-class and half lower-class). She also used a modified version of Parton's 1932 scale and found that the children in the lower class suburban area had a more advanced level of social play than their counterparts in the city. Upper-middle-class children in the city were observed to display more onlooker behaviour and demonstrated less associative play than the lower class children in the inner cities.

Often social class differences in children's behaviour reported at home parallels distinctions found in the preschool environments, e.g. the mother's selection of toys and the mother's values placed on play as having educational significance. Bernstein (1967) felt that middle-class mothers were more in tune with the role of preschools in issues of education by providing more toys which fostered educational advantages.

Language behaviours have been observed to differ for children and adults from different social classes which has been previously discussed.

#### 1.6.2.2.3 Social class differences in achievement

For many years differences in intellectual achievement among children from different social class background has been documented (Ball, 1994; Clark, 1988; Schweinhart et al., 1993; Tizard et al., 1988; Zigler & Styfco, 1993). Several early studies have indicated that children reared in disadvantaged environments are inclined to have poorer IQs than children reared in healthy non-deprived environments. (Anastasi, 1958; Bettelheim, 1955; Bowlby, 1951; Clarke & Clarke 1954; Montessori, 1962; Skeels 1966; Stoddard, 1943; Tizard & Rees, 1975). An early study supporting the deficit theory for children of lower socio-economic classes was carried out by Lesser, Fifer and Clark (1957). They examined the patterns among various mental abilities in young children from different social class and cultural backgrounds in New York and found significant results favouring the middle-class children on all scales tested.

Two longitudinal studies of birth cohorts, carried out in the U.K., *The National Child Development Study* (Davie, Butler, & Goldstein, 1972) and the *Child Health and Educational Study* (Osborn & Milbank, 1987) provide evidence that the most socially disadvantaged children had reading scores significantly lower than most advantaged children. Hughes (1983) found considerable social class difference in children's ability to deal with mathematical tasks. Other studies have implied that the influence of social class is bound to cultural/ethnic and familial background variables which often blur conclusive findings on effects of social class (Tizard et al, 1988).

This review of factors which influence the behaviours and interactions of children and adults in preschool settings is only a fraction of the many known to play a role in early learning environments. The set of features pertaining to preschool settings and characteristics of children who attend these settings, have aimed to describe and possibly explain further the distinctions between the two types of preschool orientations investigated in the study: care and educational and the home (control) group.

## **1.7 Methodological Concerns: Information (general) on Research Designs and Methods**

There are a variety of research designs and methods used to study and evaluate behaviour and development in young children's lives. Some research designs are: surveys, case studies, correlational, ex post facto research, experimental research, action research, ethnological research, and ethnogenic research.

Educational investigation and experimentation provides reference to all the above mentioned design models. To discuss all is beyond the intention or scope of this review. In looking at the studies which focused on the effects of preschool experience on child development, there has been a particular emphasis on experimental research designs.

### **1.7.1 Experimental Research and Methods**

A basic feature of experimental research is that the researcher can control and manipulate conditions in the experiment which will determine the events. By changing/controlling one variable (independent variable) the investigator can observe the effect of the change on the outcome variable (dependent variable). Some of the essential features of what has often been termed a 'true'

experimental design in educational experimentation are: a random assignment of subjects into groups; a pre-test and post-test model; and a control group, whereby the one group receives treatment and the other group (control) does not receive a treatment (Campbell & Stanley, 1963). Experimental research wants to know if the change in the treatment group is significantly greater than the change in the control group. It seeks to *explain* a causal effect, rather than just *describe* it. It also wants to make inferences on the population sample from its results. One of the advantages of using randomisation is that it ensures a greater likelihood of equivalence between the treatment and control groups. Different characteristics between groups tend to neutralise the confounding factors which might have otherwise had an effect on the outcome differences.

The pre-test and post-test feature allows for a certain degree of accuracy which can be measured over time regarding the change between treatment and control groups. When outcomes result in effects which manifest themselves in independent mean differences between the groups (treatment and control), then these effects are said to be 'main effects.' Essentially it means that all extraneous variables have been controlled for, thus allowing for only the independent variable difference to be the causal link for the outcome effects. Examples are well illustrated in major well known experimental research studies (Lazar et al., 1982; Schweinhart et al., 1993). Numerous intervention studies which have focused on factors influencing preschool experience and child development have followed the rigorous requirements for experimental research previously mentioned throughout this review.

The other experimental design used largely by educators and psychologists are designs which have a quasi-experimental framework. They also seek to establish causal relationships between the manipulated independent variable and the dependent variable by employing pre-test and post-test design models. Whereas experimentally 'pure' models use randomised samples, the quasi-experimental design must use intact groups. Quasi-experiments cannot rule out unexplained variable control unless a conditional model is constructed (Plewis, 1985). A conditional model sets out to equalise groups as a pre-treatment measurement, sometimes referred to as 'matching'. It seeks to make groups alike on all the relevant explanatory variables at the pretesting stage. In that way, any differences of relative change between groups owed to causal explanation will make some sense. Only if this attempt to eliminate the relevant initial differences between the groups is successful is there a possibility of giving a valid causal interpretation to the observed change, that is, of obtaining an unbiased estimate of the treatment effect. In this sense, the pre-test values



have the same status as other explanatory variables, and when considered in a conditional model with several other explanatory variables, will generally be an appropriate method of analysing a quasi-experiment.

Several experimental studies using quasi-experimental designs have taken careful precautions to equalise groups in order to control differing variable effects before pretesting (Andersson, 1989, 1992; Bain & Barnett, 1980; Clark & Cheyne, 1979; Howes & Olenik, 1986; Hughes, 1983; Jowett & Sylva, 1986; Smith & Connolly, 1980; Sylva et al., 1985; Tizard et al., 1976; Turner, 1977; Zigler et al., 1978 and many others). Other studies, particularly those with large sample sizes and long-term aims have demonstrated the difficulty in trying to control for variable effects which have resulted from initial differences between groups (Osborn & Milbank, 1987; McKey et al., 1985).

For both types of experimental designs (those using randomised samples and those using intact groups) the fundamental purpose is to impose control over conditions that would otherwise impair the effects of the independent variable upon the dependent variable.

### **1.7.2 Threats to Internal and External Validity**

All methods of experimentation are not immune to the influences from conditions that may jeopardise the validity of the experiments, either the treatment itself (internal validity) or the demonstrated effects as a result of the treatment (external validity). Some of the more commonly experienced threats to the internal validity are: 1) events that happen to subjects between pre-test and post-testing time intervals 2) the differing maturation rates of subjects, particularly over long testing intervals 3) regression-means effects where subjects who score high at pretesting tend to score lower at post-testing and subjects who score low at pretesting tend to score higher at post testing 4) the problem of potential effects from pretesting which may sensitise subjects i.e., a practice before the post-testing 5) the use of unreliable test instruments 6) selection bias in sampling, and 7) attrition of sample size, particularly with longitudinal studies. For external validity there are a number of factors which may limit the power for making generalisations from an experiment. They are: 1) the lack of clarity in describing independent variables (content) 2) representative samples may not be reflective of the larger population i.e., asymmetrical sample distributions (predictive) 3) the bias effect of the researcher as participant and also the subject's awareness of their role in the experiment e.g.. Hawthorne effect. 4) the dependent variable may not be valid

in terms of being operational in non-experimental settings (content) 5) threats which may sensitise subjects to experimental treatment, such as pretesting 6) the interactive effects from extraneous factors.

For experimental results to be useful they must be both, internally and externally valid. One does not subsequently follow the other. An internally valid experiment may or may not be externally valid yet conversely, an externally valid experiment cannot be internally invalid.

### **1.7.3 Necessary Procedures for Conducting Experiments**

To ensure some degree of success in experimental investigations, a certain set of logical procedures should be followed. The first step would be to precisely define the research problem, always assuming it is amenable to experimental methods. Secondly, the researcher must state an hypotheses which makes predictions about variable relationships. These variables must be measurable and closely indicate that which is hypothetically proposed. Particular attention should be made as to which variables will be prioritised. Thirdly, the researcher must decide about the duration of the treatment - is it appropriate in real-life situations? Is it short-term? Long-term? This consideration is tied in with the researcher's selection of instruments, tests, design and methods of analysis. Lastly, it is crucial to pilot test before the actual experiment in order to work out and adjust for hidden obstacles in the investigation. By the very nature of investigation and experimentation there probably does not exist a precise menu for success, nevertheless, guidelines and procedures do serve a valuable purpose by structuring a framework to follow.

### **1.7.4 Data Collecting: Observational Methods**

Several of the previous experimental studies evaluated outcome measures to show the effects of preschool experience on measured outcomes of development. Their aims were to utilise variables which would employ predictive ability to other environments. Until fairly recently little attention was paid to what was happening to the child during the time at preschool. Research began to focus on how the child behaved away from home and what the child's experiences were at preschool. The attention was to know actually what did occur at preschool, as opposed to what happens to children as a consequence of having attended preschool. Studies that aim to specify the processes of education have often used use observation methods.

Observational work dates back to the early 1900's. Its use and popularity as a research tool has varied and various factors were responsible for its continued use in contemporary research (Parten, 1932). Early attempts had various methodological drawbacks and problems owed to either techniques or poor reliability measures. The methods became more polished as studies considered more complex designs. Children of varying backgrounds and abilities when considered in design models, added to the re-introduction into the use of observational methods in natural settings.

The interest in observational methods for educational research was also encouraged by the work of Bowlby (1951) and the growing number of studies on infant development. Bowlby's work stimulated various detailed studies on mother-child interaction which are exemplified in work by Rutter (1972), Tizard & Rees (1975), Howes & Olenik (1986) and Howes (1990).

Several studies investigated and observed a wide variety of different behavioural aspects of development and characteristics of preschool settings, ranging from play (Smilansky, 1968; Tizard et al, 1976; Hutt, 1979; Sylva et al., 1980; Rubin, 1982; Jowett et al., 1986); to language (Marthlew et al., 1978; Tizard et al, 1971; Tizard & Hughes, 1984; Sylva et al, 1980; Wells, 1983, 1985; Wood & Wood, 1983; Wood, 1988; Hughes, 1983) and mother-child relationships (Clarke-Stewart & Fein, 1973; Lewis & Wilson, 1972; Tizard & Hughes, 1984; Howes & Olenik, 1986).

#### 1.7.4.1 Ethnological Research Based on Observational Methods

Another influence in contemporary child development research has been ethnological methodology which was originally based on observation studies of animals in their natural habitats. From a biological perspective, the ethnologist considers behaviour as it occurs in its native environment. Considerable importance is placed upon learning which takes place as a result of sensitive periods of growth and development. McGrew (1972) adapted ethnological methods for use in studying children in preschool settings. Later studies would expand upon the ethnological approach considering several factors of home, school and community life which play a crucial role in child behaviour and development.

The development of ethnogenic research expands upon the same idea as ethnological research in terms of observing children in natural settings. Ethnogenic methods attempt to discover how social development proceeds in a natural setting. Detailed accounts of lifelike conditions in a social sequence of

events are investigated. The language and speech interactions provide purpose and meaning to the social process. Ideally, researchers using ethnogenics, prefer, when possible, to use video cameras and tape recorders to collect data to minimise bias (Harre, 1978). Depending upon the nature of the investigation the data analysis may be either qualitative or quantitative. Kitwood (1977) developed the experience-sampling method for use in ethnogenic research. This provides techniques for gathering and analysing accounts based on tape-recorded interviews. Several safeguard measures on authenticating observations are mentioned, such as: cross-checking between researchers; member tests where interviewees have a chance to resolve any misunderstanding by making further comments; allowing explanations given by participants to justify their observed behaviours. The researcher's skills are largely measured by how well and how deep the investigator can probe for explanations of behaviour. Often that means investigating the ways that group members interpret the flow of events in their lives. Examples of studies which have directed their attention in this way are: Tizard and Hughes, 1984; Wells, 1981; Tough, 1977; Bruner, 1980; Menig & Peterson, 1983.

Apparently observational methods have distinct advantages and disadvantages when compared with experimental model designs. Favourably speaking, observations provide actual accounts of behaviour as it happens i.e., a segment of realism. It offers a segment of the process of action taking place in the preschool setting, often without the need for any interruption or intervention (video cameras, tape recorders, etc.). In fact great pains are usually taken to avoid any actions that might change the situation.

Observational methods not only describe, but can stimulate effective change and improvement in an existing process of learning and education (action research). In turn, the results influence change in development. The limitations of observational methods are the risk of observer bias in data recording, lack of control of the research situation and the inability to draw causal conclusions.

### **1.7.5 Reliability & Validity**

A critical review of studies carried out in this review suggests that various influences may impair the validity of the results. A description of some of these factors which most often undermine reliability and validity will be discussed in

the context of the instruments used in the Chapters on Methods and Results and Discussion. Further discussion regarding validating procedures is contained in Appendix Q.

The studies reviewed throughout Chapter One have shown that preschool experiences of high quality have beneficial effects on children's development (cognitive, social and emotional aspects). The literature has also demonstrated a history of short and long term effects of preschool experience on children's development in several different countries. This has provided a theoretical and methodological context for an investigation into the effects of preschool education in Bahrain.

Preschool provision in Bahrain services nearly 20% of all Bahraini preschool age children (3-5 years) by providing varying types of preschool care and education (nurseries, day care centres and playgroups). While some preschools offer good quality care and education (comprehensive-bilingual schools and foreign-private preschools) to families of primarily foreign nationals and higher income Bahraini families, most offer low quality care at tuition rates (Arab national preschools) which are beyond the means of most working class Bahraini families (further discussion in section 2.2 Background on problem: Rationale, page 113). Of those centres available, casual observation has suggested that standards are generally low in terms of learning facilities available in the class environments, trained staff and programmes that promote the involvement for parents i.e., factors which are necessary for adequate care. To date, there has been little research developed to describe the role preschool education plays in Bahrain (Al-Fadhel, 1986). One particular exploratory study (Al-Fadel, 1986) looked at teachers (nursery and primary) and parents ratings on different educational expectations at school. This study offered valuable information on varied adult expectations related to school performance, but it did not focus on the conditions of preschool care and education, children's performance, or characteristics of preschool environments. Presently, there is no research to show the prevailing conditions of preschool education and care in Bahrain. Furthermore, there is no research to show the effects, if any, of preschool education on aspects of early childhood development.

This investigation attempts to investigate, not only the role of preschool experience in its specific cultural context, but also, the effects of preschool effects associated with children's performance (specific hypotheses stated on page 120). In a more general sense, the question was asked, "What is the role of preschool education and child care in Bahrain? This was asked in order to provide an overview of preschool institutions and care in Bahrain. Two further questions were also asked, "Are there beneficial gains in terms of development

for children attending centre-based preschool education compared with home care?" and if so, 'How did these gains compare with children in different cultures?' These questions further serve the aims of this research which are stated in section 2.1, page 113.

As mentioned, previous empirical observations of existing programmes in Bahrain have shown a wide variation of quality in preschool provision available. In order to investigate these varying types of quality centres, a questionnaire was constructed and adapted which would measure the orientation of the preschool centres. It was based on two important criteria: structure/management practices and staff attitudes (further discussion in section 3.2, Teacher Questionnaire, page 136). This questionnaire was an adaptation drawn from previous studies which looked into the residential care of children in foster homes/children's homes: The Revised Child Management Scale (RCMS) by King, Raynes, and Tizard, (1971) and the Staff /Foster Parent Attitude Scale (ST/FPAS) by Cawson and Perry (1977). Those centres that were classified as 'care-orientated' for this study tended to use management practices that were institutionally-orientated, whereas centres that were classified as 'educationally-orientated' used management practices that were more child-orientated and focused on active-learning approaches. Likewise, care-orientated centres showed teacher attitudes that were more likely to be adult-dominated, while at the educationally-orientated centres, teachers favoured more child-directed attitudes which allowed for more personal expression and independence (further discussion on differences between staff attitudes is found in Colton, 1988 and on pages 136-138 and in the results section of the Teacher Questionnaire, pp 153-155). This classification procedure provided a clear theoretical framework for the empirical comparison of assessing varying differences in quality in preschool settings (environments) and children's performance.

The effects of differences in preschool experience were assessed by using a 'profile' of assessments which constituted an impact of effectiveness. This profile considered a number of psychometric IQ measures (Stanford-Binet, WPPSI, and Draw-A-Person) and two further outcomes: the child's perceived social competence and acceptance e.g., a measure of self-concept (Preschool Scale of Perceived Competence and Social Acceptance, PSPCSA); and behavioural/emotional problems (The Preschool Behaviour Checklist, PBCL) in children at preschool settings (Table 4). The main reasons for selecting the instruments used to assess child development were:

1) The instruments were familiar to the region among local educators, government and ministry officials to which the results from this investigation will be addressed

2) The psychometric instruments selected (Stanford-Binet, WPPSI and DAP) have been standardised and culturally adapted to several Arab speaking populations in the region. They also provide a predictive measure of some cognitive abilities and skills which are highly correlated with school performance across several different cultures (Abu-Alam, 1989; Al-Misnod, 1986; Bekman, 1990; Ceci, 1991; Faraj, 1986; Kagitcibasi et al, 1988; Meisels & Shonkoff, 1990; Olmsted & Weikart, 1989; Schweinhart et al., 1993). Two features of behaviour and ability not addressed on these IQ assessments were included in the assessment on aspects of children's development. They were measures of self concept and the identification of emotional behavioural problems. The measure of self-concept (PSPCSA) was considered important for several reasons, some of which will be mentioned here. Evidence in the research has indicated that higher levels of self-concept are linked to short and long term social benefits (Anderson, 1989; Howes, 1990; Howes & Rubenstein, 1985). Furthermore, high quality preschool environments seem to provide the optimum learning conditions which promote high levels of self-concept. The perception of self, measured in terms of competence and social acceptance, incorporates learning based on attitudes, motivation, socialisation and confidence. These are essential for successful learning (Harter, 1990b; Harter, 1989) and are not aspects that were addressed on the psychometric measures.

The measure of behavioural/emotional problems (PBCL) of children in different preschool experience (care and educational) provided an index on the prevalence of problems within the particular cultural context (Bahrain). It also investigated and identified differences between the preschool centres, providing some clues into the ways they go about meeting children's emotional needs.

3) The instruments provide a composite of several assessments which can be used to assess aspects of children's development i.e., cognitive, social and emotional. The collective 'profile' of outcome measures of child development were seen as important for this investigation for comparison of children's performance in the varying preschool settings.

Additionally two instruments were used to assess preschool settings: the Early Childhood Environment Rating Scale (ECERS) and the Target Child Method for time-sampled observations of children and staff behaviours. These observational instruments were chosen to provide quantitative and qualitative measures of

characteristics in preschool settings which might explain the different outcome measures found on aspects of children's development. Whereas the outcome measures provided an indication of children's performance in the preschool settings (sometimes referred to as 'product' assessments), the observational instruments gave accounts of the actual behaviours as they occurred (sometimes referred to as 'process' assessments).



## **Chapter Two**

**Introduction: Aims, methods and design  
of study**

## Chapter Two

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## **Chapter Two**

### **2.0 Introduction: Aims, methods and design of study**

#### **2.1 Aims of the research**

The aims of this investigation are:

- 1) To provide an overview of preschool institutions and care in Bahrain
- 2) To study the effects of centre-based preschool education on some aspects of child development and compare them with the effects of home care
- 3) To compare educational environments in educationally orientated preschool centres and care orientated preschool centres
- 4) To suggest some implications and recommendations for early childhood education in Bahrain.

#### **2.2 Background on problem: Rationale**

Bahrain does not have a comprehensive, standardised system of preschool education. Approximately 20% of the Bahraini preschool age children attend some sort of preschool institution. Within this percentage only 3% of the total served receive any type of government assistance.

Almost all preschools (nurseries, day care centres and play groups) are owned and operated by private individuals or organisations and charge tuition fees. This leads to a critical shortage of preschool services available, especially for children from deprived socio-economic backgrounds. Similar to trends throughout the region in the Middle East, early childhood centres in Bahrain are often inadequately supervised and monitored by government agencies. Often centres charging high tuition fees lack the quality of services and teacher training necessary for adequate care. Centres charging lower tuition fees cater generally to a more economically deprived sector and are characterised by inadequate supplies and training. Parents from all socio-economic backgrounds tend to show low expectations of quality care and involvement from centres (Al-Fadhel, 1986). Although impressive strides have been made on the eradication of illiteracy over the past three decades (from 91.5% to 42% in 1981), over 40% of the female population are illiterate (Ministry of Information, Statistical Abstracts, 1988). Most of these preschool age children from families where one or both parents are illiterate, do not attend any type of preschool institution (Al-Jishi, 1988).

Over recent years there has been growing interest in early childhood development and attempts have been made to provide services and materials for preschool education. In 1983-84, UNESCO, in co-operation with the Ministry of Education in Bahrain, studied and developed a teacher training programme for prospective preschool educators. This proved to be a valuable resource for preschool education as it laid out a format and guidelines to begin to study and assess some aspects of early childhood development, but it had serious limitations. Marginal monitoring of the implementation of the teacher training programme, coupled with low teacher salaries, resulted in low initiative and morale on behalf of the teachers. The programme had reached less than 10% of the eligible preschool teachers.

Currently, plans are underway at the University of Bahrain to create an early childhood education programme for future preschool teachers. This programme will contain a recognised ECE curriculum with a teacher training scheme and will be a two and half year course. Graduates will be honoured with a BA degree in Early Childhood Development. Another programme, under the auspices of the Ministry of Private Education (Al-Doy & Al-Fadhel, 1994) plans to offer in-service training for teachers and administrators. Regional and local educators and professionals will rotate a small number of preschool staff through an intense eight-week session, focusing on programme structure, management, organisation, and special needs. These efforts are hoped to upgrade the quality and standard of preschool teacher training in Bahrain. Hopefully, they will be supported by this research which concentrates on the effects of early education provision and on the distinguishing features that constitute 'quality' preschool programmes.

### **2.3 Statement of the problem: Research questions**

Of those preschool facilities available, casual observation suggests standards are generally low in terms of class environments, staff training, activities and parent participation and involvement. To date, there has been no research developed to show the effects of preschool education and care on aspects of early childhood development in Bahrain. This empirical study revolves around these three questions:

- 1) Is attendance at preschool centres (educationally orientated and care orientated) associated with higher performance when compared with a home control group?
- 2) Is attendance at an educationally orientated preschool associated with improved performance when compared with children attending a care orientated preschool?
- 3) Are educationally orientated preschools providing 'a more favourable' environment when compared with care orientated preschool environments? when compared with home environments? ('A more favourable' environment includes the physical environment, management, availability of materials and apparatus, parent relations) (Harms & Clifford, 1980, Early Childhood Environment Rating Scale [ECERS]).

## 2.4 Design and sample

The investigation was conducted over a period of two years, using a conditional quasi-experimental design with pre and post-testing measures. The following study investigates the impact of the effects from three different preschool settings (care-orientated, educationally-orientated and home) on several measures of children's development in Bahrain. Features of the preschool environments in all settings were also considered.

To some extent, the design of this research has been influenced by a previous longitudinal home-intervention study carried out in Turkey in 1988 (Kagitcibasi, Sunar & Bekman, 1988). The Turkish study aimed to assess the impact of two types of preschool effects (care and educational) on the overall development of economically disadvantaged children. It compared these different preschool effects, each with and without a home-intervention scheme (*The Mother Training programme based on HIPPY*). Although this research in Bahrain did not utilise a home intervention scheme there were several similarities in both studies. Turkey and Bahrain share similar religious and cultural backgrounds. Both do not provide a widespread system of early childhood programmes for children of preschool age, although both have large populations of children who are from disadvantaged socio-economic backgrounds. In Turkey only 5% of the preschool population receive any type of preschool education while Bahrain services only 20% of their preschool population.

Features of the existing programmes show a wide variation in quality of preschool provision, staff qualifications and training, adult involvement and facilities. Those centres available to the less economically advantaged offer minimal custodial care with little emphasis on cognitive and social enrichment. The research from Turkey, along with this investigation, clearly provide further growing evidence that quality educational preschool programmes do have a positive impact on children's development.

The independent variable was the type of preschool experience (educationally orientated, care orientated and home). The dependent variables were children's scores on the assessments of child development and the centre's scores on the assessments used for the environmental profile in each nursery.

There were two main stages followed for the procedure for selecting preschools for this study. The first stage focused on the selection of preschools for the study. This had two parts: selection of preschools used for classifying preschools as either care or educationally-orientated; and, secondly, the selection of subsamples of preschools drawn from those previously classified which were to be used for the main study on assessing children's outcome measures (Stanford-Binet; WPPSI; Draw-A-Person; The Perceived Competence and Social Acceptance Scale; and The Preschool Behaviour Checklist); and for assessing the preschool environments (ECERS and Time-sampling observations).

The first stage used a stratified random sampling procedure based on four catchment areas, previously defined by the Ministry of Information (Central Statistics, 1988). These four regional areas, each represented an equal proportion of the entire population of Bahrain i.e., 25% from the Northwest region; 25% from the Southwest region; 25% from the Northeast region; and 25% from the Southeast region (Table 1). Each area (strata) resembled each other in income, social class, religious affiliation and size of households and was also representative of an equal proportion of private Arab preschools (termed, 'national' by census bureau) that were represented in this study.

Three preschools were randomly selected from each strata for the sample used to classify preschools i.e., a total of twelve preschools (Teacher Questionnaire, section 3.2). All preschools were Arab national preschools and they were matched on the following variables: total number of children served in each center (80-110 children); age range of children served (3-6 years); teacher salary range

(75-85BD per month); tuition fees (25-30BD monthly with transport); operating hours (7:30am-1p.m. Sat-Wed; language of instruction (Arabic) and nationality of teachers and students (100% Bahraini).

Subsamples from the previous classified preschools (care or educationally-orientated) were then selected for subsample analyses for the main study:

- 1) 8 preschools (four care-orientated and four educationally-orientated) were selected in order to investigate the aspects of child development
- 2) 12 preschools (6 care-orientated and 6 educationally-orientated) were selected for assessing characteristics of the preschool environments (The Early Childhood Environmental Rating Scale, ECERS)
- 3) 10 preschools (5 care-orientated and 5 educationally-orientated) were selected for investigating staff and children's behaviour using the Target Child Method (time-sampled observations).

The same preschool centres sampled for assessing characteristics of the preschool environments were also used in assessing children's performance i.e., there is clearly an overlap of samples selected for assessing children's performance and preschool settings.

The second stage focused on the selection of children from the preschool centres previously classified and which served children of working class families. Twelve children were selected from each preschool and a total of 44 children were selected for the home sample. Children selected from each center were selected with the help of the directress and children's backgrounds were matched on several variables: age, mother's education, mother's age, father's occupation, months in preschool, and sex (further discussion on page 118, 127). Children in the home sample were selected with the help of the Ministry of Social Affairs and Labour personnel and social workers who served as paid volunteers in this study. There was a total of 140 children selected for the main study (further discussion on page 127).

At present, preschool provision in Bahrain is 'classified' as either 'private,' meaning owned and operated by the private business sector and including foreigners, and 'national' which also applies to private, yet ownership is primarily Arab populace. Within both categories, there are several types of preschool provision, i.e. nurseries, playgroups and infant programmes.

Prior to this study, preschools have not been 'classified' according to the orientation of centre (adult-directed, free play, child-centred, etc.). There are literally no signs above the doors indicating type of preschool practice provided. Throughout this study, all preschool centres visited claimed to be 'educationally-orientated' placing emphasis on an active child-centred approach.

For this study it was necessary to identify and classify preschool provision according to the practice and orientation of the centre. The procedure and analysis for the classification of preschools according to orientation (care or educational) is described in the following section (Teacher Questionnaire/Interview (TQ), section 3.2). The Teacher Questionnaire used is an adapted version of *The Revised Child Management Scale (RCMS)* by King, Raynes and Tizard, (1971) and *The Staff/Foster Parent Attitude Scale (ST/FPAS)* by Cawson and Perry (1977). It focuses on two important dimensions of preschool practice: management practices and teacher/staff attitudes.



Table 1:

**Research Sample**

(Number of children in each cell)

	Educationally Orientated Preschools a	Care Orientated Preschools a	Home (Control)
<b>Area 1</b> Northwest	12 (from preschool 1A)	12 (from preschool 1B)	11
<b>Area 2</b> Southwest	12 (from preschool 2A)	12 (from preschool 2B)	11
<b>Area 3</b> Northeast	12 (from preschool 3A)	12 (from preschool 3B)	11
<b>Area 4</b> Southeast	12 (from preschool 4A)	12 (from preschool 4B)	11
<b>Totals</b>	<b>48b</b>	<b>48b</b>	<b>44</b>
Note. The classification of the type of preschool orientation (care and educational) is reported in <u>Chapter 3. 3.2: Teacher Questionnaire/ Interview Used For Classification of Type of Preschool Orientation.</u> a. All children and their families were Arabic-speaking, Bahraini nationals A: preschools classified as educationally-orientated; B: preschools classified as care-orientated. b. At post-testing there was some attrition: educational=47; care=44; Total=135			

The 140 children in the total (main) sample were assessed twice: a pre-test at the initial onset of the study; the post-test at the end of the first year interval ( $N=135$ ). Those children in educational preschools and care orientated preschools were tested at school and the 44 children serving as the control group were tested at home. All children were matched on several background variables: age, mother's education, mother's age, father's occupation, months in preschool at study entry, and sex. Table 2 shows the mean ages for the three groups represented at study entry (pre-testing): 4.0 years for children in the educational group; 4.2 years for children in the care group; and 3.11 years for children in the home group. Although age differences were found to be significant, they were statistically controlled in all analyses. Groups appeared to differ significantly on the years of schooling for mothers but this factor would not be significantly related to children's performance when entered into a statistical model for analysis (regression). Unexpectedly, there were no significant differences between the groups when father's occupation was compared. In fact, fathers in the home group had a higher mean score on occupation status with fewer unemployed



Table 3:

**Timetable for the research**

	<b>Pre-test</b> (Oct 1992)	<b>Post test</b> (June 1993)
<b>Educational</b> (tested at centre)	N=48	N=47
<b>Care</b> (tested at centre)	N=48	N=44
<b>Home</b> (tested at home)	N=44	N=44
<b>Note.</b> The original sample remained fairly stable, with the attrition of children mainly accounted for in the care group. The interval of time between testing was approximately one academic year, i.e. nine months.		

The list of children from each centre, including information about the child's background and family status were made with the help of the directress in each centre (they were all females). The list of children for the home sample (44) was compiled with the help of two paid social workers, employed by the Ministry of Social Affairs and Labour. Additionally, government local aides from the more remote village areas, assisted in locating suitable children for the home study sample. They were very helpful in locating homes and acquainting the social workers and the researcher with the community, especially in areas with strict religious customs and tradition.

## 2.5 Hypotheses

The following hypotheses were stated at the onset of this investigation and are in keeping with the research questions stated earlier (section 2.3: Statement of the Problem: Research Questions).

- 1) It was predicted that children in both the educationally orientated preschools and the care orientated preschool centres would have higher scores on the measured aspects of child development than those children not attending any preschool institution (home group).

- 2) It was predicted that the children attending educationally orientated preschools would have higher scores on aspects of child development than those children attending care orientated preschools.
- 3) It was predicted that educationally orientated preschool centres provide 'a more favourable' environment for early childhood development when compared with care orientated environments.

## 2.6 Assessments administered to children to study developmental outcomes

The following instruments were chosen because of their cultural adaptability and familiarity to the region. All of the instruments used for assessment of cognitive development (Stanford-Binet, WPPSI and the Draw-A-Person) have been standardised in several Arabic speaking countries in the area. Furthermore, many government, ministry officials and educators in Bahrain are well acquainted with these instruments.

For **cognitive** development, the following assessments were applied:

- a) *Stanford-Binet Form L-M<sub>1</sub>* (Terman & Merrill, 1961) includes items on language
- b) *Arithmetic Subtest* and the *Block Design* from the *Wechsler Preschool and Primary Scale of Intelligence (WPPSI: Wechsler, 1963, 1967)*
- c) *Draw-A-Person* (Harris, 1963).

**Personality and social development** were assessed by:

- d) *The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children* by Susan Harter (1983).

Some aspects of **emotional-social** problems were measured using

- e) *Preschool Behaviour Checklist (PBCL)* (McGuire & Richman, 1988).

In all, six different instruments were administered to the preschool children (96) and five instruments were used to assess the children in the home sample (44). Table 4 summarises the instruments that were translated into Arabic, checked for accuracy (back-translation, Brislin et al., 1973) and pilot tested for cultural acceptability.

Table 4:

**Assessments to study children's developmental outcomes**

	<b>Preschools</b> (care and educational)	<b>Home</b> (control)
<b>Cognitive</b>		
<b><u>Stanford-Binet Form L-M</u></b> (IQ., perceptual, sensory- motor, language)	X	X
<b><u>WPPSI-Arithmetic Subtest</u></b> (classification, seriation, discrimination of size, quantity)	X	X
<b><u>WPPSI-The Block Design</u></b> (spatial relationships, perceptual organization)	X	X
<b><u>Draw-A- Person</u></b> (intellectual maturity)	X	X
<b>Social and Personality</b>		
<b><u>The Pictorial Scale of Perceived Competence and Social Acceptance (PSPCSA)</u></b> (self concept, self confidence)	X	X
<b>Emotional - Social behaviour</b>		
<b><u>The Preschool Behaviour Checklist (PBCL)</u></b> (emotional conduct, concentration, social relations)	X	
<p>Note. All instruments were translated (Brislin et al., 1973), checked for accuracy and pilot tested for cultural acceptability (procedure explained in Appendix B and briefly in the context of individual test results.</p> <p>X: indicates assessment administered</p> <p>Further detail of instruments are described and explained in the context of each analysis.</p>		

## 2.7 Assessments used to describe and explain aspects of the two types of preschool orientated environments (care and educational)

The preschool centres, care and educationally orientated, were compared using a checklist on the aspects of the physical environment, materials available, activities, management practices, adult needs, etc. using the *Early Childhood Environment Rating Scale (ECERS)* Harms and Clifford, (1980).

Adult-involvement behaviours were observed in the contents of focal child observations from each preschool centre. The scheduled types of adult behaviours were noted following the procedure described in *Monitoring the High/Scope Training Programme* by Sylva, Smith and Moore (1985).

In order to explore differences in the children's behaviour between educational preschools and care orientated preschools, observational data was collected by time sampling, using the *Target Child Method* (2400 one-minute observations), Sylva, Roy and Painter, *Childwatching at Playgroup and Nursery School* (1980).

Table 5:

### Assessments used for describing aspects of preschool environments

<b>Time Sampling Observations</b>	2400 one-minute timed observations: children/ staff
Observations of Children/Staff (N=120) children	<u>Target Child Method</u> , (Sylva, Roy & Painter, 1980; Sylva, Smith & Moore, 1985)
<b>Profile of Preschools</b> (Rating Scale) N=12 centres	<u>The Early Childhood Environment Rating Scale</u> , (Harms & Clifford, 1980).

## **Chapter Three**

### **Describing the samples:**

**A Family Background Questionnaire (FBQ)**  
(on children and their families)

and

**The Teacher Questionnaire (TQ)**  
(A classification procedure for identifying preschools)

## Chapter Three

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## Chapter Three

### 3.0 Describing the samples:

**A Family Background Questionnaire (FBQ) for children and their families**

**The Teacher Questionnaire (TQ): A classification procedure for preschools**

Two procedures will be discussed in this chapter in order to provide background information on the sample of children assessed and provide an understanding of the terms used throughout this study, 'care orientated provision' and 'educationally orientated provision.' They are:

- 1) The Family Background Questionnaire (FBQ): an instrument devised to investigate each child's family background.
- 2) The Teacher Questionnaire/Interview (TQ): a procedure for classifying two types of preschool provision in Bahrain--care orientated and educationally orientated.

Both instruments serve as groundwork to describe and explain differences between the three sample groups in this study. They also assist in highlighting differences on the outcome measures which will be discussed later (Chapter 4).

### 3.1 The Family Background Questionnaire (FBQ)

The Family Background Questionnaire/Interview (FBQ) is comprised of forty questions which pertain to basic background information on children and their families in the sample. It was administered to the mothers in the sample. Nearly half of the questions pertained to basic demographic information, such as child's age, parent's education and occupation, household structure (nuclear vs extended family, etc.), number of siblings, and so on. Information relating to the child's home environment such as availability of toys, play, television viewing habits, exposure to books, and the parents' child-rearing attitudes/behaviours were also included in the questionnaire. Some questions referred to the mother's expectations regarding the child's competence and behaviour, discipline, and the aspirations for the child's future.

### **3.1.1 Obtaining the sample: Home and preschools**

Initially, requests for the families needed for the home sample were sent to the Ministry of Social Affairs and Labour, who in turn, contacted the regional social service centres in Bahrain. Lists were compiled of potential families needed for the home study group who would be willing to participate in the study. Nearly 90% of these names on the initial list were unsuitable candidates because the child's age was wrong; child was a non-national; income could not be matched; or addresses could not be located. Fortunately, the two paid volunteer social workers assigned to assist in the research compiled a new list of names and addresses after further contacts with the directors of the social centres and local service workers. In all, ninety-four homes were contacted and visited. A preliminary screening interview was generally carried out in the home with the mother to ensure data needed for family background control (income, social status, age of child, nationality, child not attending preschool, etc.) was matched. Of the 94 homes visited, 44 families were selected for the main home sample where background data could be matched. The parents from these homes were interviewed extensively and the children were assessed at pre-testing on measures of child development. There were 21 boys and 23 girls in the home sample and the mean age was 3.11 years at pre-testing.

Children in preschool attendance were selected from eight preschool centres, according to their educational or care orientation (classification for type of preschool orientation follows in section 3.2: Teacher Questionnaire/Interview) and the socio-economic background of the children they served. Four of the preschool centres were educational and four were care in orientation and all served children of working class families. Twelve students were selected from each preschool centre. The child's age, sex, parent's education and occupation, and length of time in attendance at the centre were matched for background. Those children who did not fit the age criteria; who could not be classified as low SES; and who had been in attendance at the centre for less than three months, were excluded from the sample. There were 29 girls and 19 boys selected from the care orientated preschools, and 24 girls and 24 boys selected from the educationally orientated preschools. The mean age was four years and two months for children from all preschool centres.

### **3.1.2 Procedure for administering Family Background Questionnaire (FBQ)**

In co-operation with the Social Welfare Society, two volunteers were secured for assistance in administering the FBQ in the homes and preschool centres. Both volunteers were trained social workers (college graduates) having previously conducted research in Bahrain. The volunteers were given a week-long preliminary training session prior to the administration of the FBQ (training for the assessments used for measuring outcomes on development was also given at this time). For the home sample, each volunteer was assigned to half of the home sample group, i.e. 22 children each. The volunteers rotated between 3-4 days per week for interviewing in the homes. The researcher accompanied each volunteer throughout the interviews in all the homes. Family background data was collected at pre-testing and any changes in familial status were noted at post-testing. There was only a minimal increase in family size for a few families in the home group at post-testing but this did not affect the overall average family size. All other family background variables did not change by post-testing.

### **3.1.3 Findings for Family Background Questionnaire: Home sample (n=44)**

All the children in the home sample were living with both their natural parents, with the exception of one family whose father had recently died. There were no divorced or separated parents. Family size ranged from a single-child nuclear family to a ten member family group, excluding additional extended family members. The average family size was six members, including parents. Fifty-six percent of the families had four or more children living in a single household (1-2 bedrooms capacity) and 40% of all families had extended family members living with them. Overcrowding posed a serious problem for many of these families. This may be directly linked with the general housing design in Bahrain, which continues to build homes with the 2-3 child family in mind. Half of the families lived in rented accommodations without garden space (80% of the total home sample did not have a garden area for the child to play in). Although mothers often said that the child only played under supervision in front of the house (68%), the researchers observed differently. Children were often observed roaming the streets or visiting friends some distance from home (up to a kilometre from their home).

Over 90% of the fathers employed (Table 6) worked in government related agencies or in the military (87%). Most mothers were housewives (92%) and had

not previously held jobs. Although mothers had a higher illiteracy rate than fathers (15% vs 10%), the educated wives had spent more years in formal schooling than the fathers. Nearly 45% of the mothers had reached high school level, compared with less than 35% of the fathers. Also, it was mothers who took advantage of the Illiteracy Eradication Programme provided by the government (5%).

Most of the children at home spent their time playing with siblings indoors and outdoors, or watching television. All homes owned T.V sets and 78% of the children watched children's programmes, daily. As expected, parents, more often, told stories to their child (60%) as opposed to reading stories (30%). Reportedly, fathers 'played' less often with their children than did mothers, but when fathers did play with the child they played for longer periods of time (37% of fathers played more than 2 hours per day, while 34% of mothers played more than 2 hours per day). In its cultural context, the term 'playing with the child' is interpreted by parents to mean taking care of, watching, or helping the child. It does not necessarily denote an action of cognitive, social, emotional or physical learning.

Generally, children got along well with siblings, friends and parents, yet 59% were reported as being 'sometimes naughty' or 'naughty' (the translation for naughty in Arabic is 'sheitan', which means devilish. Put in its cultural context, this has an accepting, positive connotation, when used). Parents expected their children to take care of themselves in some capacity: getting dressed, washing, personal hygiene, etc. Additionally, children were asked to help with some household chores. Some parents saw this question as an exercise in learning for the child, while most interpreted this as an absolute necessity, considering the large family size.

Regardless of the educational background of the parents, all mothers expected their children to go to college. Many parents (58%) selected doctor as the chosen profession, followed by teaching (15%) and engineering (8%). The ideal age stated for marriage ranged from 25-30 years.

Some consideration and discussion was given to problem questions and/or ambiguities which arose after the interviewing (FBQ). As mentioned earlier, all interviewers saw a problem with the term 'playing time with the child and parent' (question #16 & #26). It was felt that these questions could be broken down into more specific tasks that would qualify the term 'playing', i.e. playing games together; doing a task together; playing with a particular toy together; etc. Those questions containing the word 'play' (#16 & #26) were noted in the questionnaire

as meaning the adult 'played with' or was 'involved with' the child in an activity, game or task. It did not refer to observing or watching the child only.

At the pre-screening interview stage (home sample), mothers were asked "Does your child attend any preschool, playgroup or nursery?" In hindsight, it was suggested that an important follow-up question should have been, "If you could afford it, would you want your child to attend a preschool?" or, "Could you give us some reason as to why the child did not attend preschool?" It was obvious to the volunteers and the researcher that many mothers actually thought that we were going to place their children in preschools, as a result of the interviewing and testing. Naturally, the social workers clearly stated our intentions at that time. Some of these problems associated with the initial interviewing were due to the fact that none had previously experienced a 'foreigner' in their homes before - the entire sample was Arab-speaking Bahraini nationals.

#### **3.1.4 Findings for FBQ for preschool sample (n=96)**

All the children in the preschool sample were living with both their natural parents. There were no divorced or separated parents. The average family size was slightly over five members per family, including parents (mean 5.35). Twenty-seven per cent of the families had extended family members living in the same household. Over 58% were homeowners and more than half of all living arrangements had gardens attached (Table 6).

Most fathers were employed (92%) with a majority working at government related occupations (75%) for example, soldier, clerk in the army, government industry and labour, ministries and government schools. Forty two per cent of the mothers were employed outside the homes in government jobs, offices, preschools, etc. Similar to the findings reported on the FBQ for the home sample, wives received more formal education than their husbands. Over 60% of the mothers had reached high school level compared to 48% of the fathers.

All homes in the preschool sample owned at least one television set and over forty percent of the children watched T.V daily. More parents told stories to their children (84.4%) than read stories to them (59%). Reportedly, most mothers claimed they took care of the child the most, although nearly 58% had domestic live-in help in their homes. Mothers played with their children (as noted in the FBQ findings for the home sample, the term 'playing' was ambiguous) for longer periods of time and more frequently than fathers. Over 72% of the mothers

played more than one hour per day with the child compared with 42% of the fathers.

Generally, most children got along well with their siblings, friends and parents. (There was two exceptions to these findings. Both cases were boys who reportedly 'never' got along with their fathers). Over 55% of the parents reported their child as 'well behaved' or 'behaved', while 44% classified the child's behaviour as 'sometimes naughty'.

All parents expected their children to go to college. The professions preferred by most parents were: doctor (over 70%), teaching (14%) and engineering (14%). All parents who chose teaching as a profession had a female child in the sample and those parents who chose engineering had a male child in the sample. The chosen age for marriage was between 20-25 years (71.4%). The majority of parents expected their children to be somewhat independent, i.e. dress themselves, bathe, etc., and help out with the household chores (87%). They also expected their child to help them physically and financially in their old age (81%).

### **3.1.5 FBQ findings compared: Preschools vs home**

The average family size was slightly larger for the home sample, six members versus five members in the preschool sample. This difference might be accounted for by the slightly higher percentage of families with extended family members in the homes (40% vs 27% in the preschool group).

Nearly the same percentage of fathers, in both the home and preschool sample, worked (92% preschool - 90% home). There were significantly more (.000) working mothers in the preschool groups (43%) when compared with working mothers in the home group (10%). Mothers in the preschool groups were also, significantly more likely to have domestic help in their homes when compared with mothers in the home group (58%, 27%, respectively). Although wives had higher illiteracy rates in both groups, mothers were slightly better educated than their partners.

Table 6 shows the percentages of parents who spent time playing with their children. More mothers from the preschool groups played with their children than mothers from the home group ( $p < .01$ ), whereas fathers in the home group played significantly more with their children compared to the fathers of children at preschool centres ( $p < .01$ ). With the lesser degree of domestic help in the homes, possibly fathers found more time (or were obliged) to play with their children.

Also, 12% more of the fathers in the home sample held government related jobs, that had fewer working hours per week than those jobs outside the government sector (Table 2).

Not surprisingly, more children watched television daily ( $p < .01$ ) in the home group when compared with preschool attendees (78% home group, 41% preschool group). Over 84% of the mothers in the preschool group told stories to their children and nearly twice as many mothers from the preschool group read stories to their children when compared with mothers from the home group ( $p < .01$ ). More mothers from the preschool group saw their children as 'behaved' and fewer saw them as 'sometimes naughty' than the mothers from the home group.

**Table 6: Percentage ratings-**  
The **FBQ**: Preschool sample (care and educational) and the home sample

	<b>Preschools</b> (Care and Educational)	<b>Home</b>	<b>chi-sq</b>
Working Fathers	92.3%	90.2%	.12
Working Mothers	42.5%	10%	25.1***
Domestic Help	58%	27%	8.4**
Relatives Living in Households	27%	40%	2.6
Homeowners	58.8%	50%	.85
Age of Mothers <30 years	60%	48%	1.9
Mothers who took care of child the most	87.7%	99%	1.7
Time mothers played with child per day			
>1 hour	72.7%	66%	14.2**
<1 hour	26%	32%	.48
Time fathers played with child per day			
> 1 hour	42.2%	52.2%	11.6**
Mother told stories	84.4%	60%	10.1**
Mother reads stories	59%	30%	12.3**
Watched T.V daily	41.2%	78.5%	23.8**
Child's behaviour (behaved)	55.4%	40%	2.5
(sometimes naughty)	44.4%	55%	1.2

Note: Preschool group n=96, home group n=44: the data source is drawn from items on the Family Background Questionnaire that indicated differences at pre-testing. Information was also collected at post-testing on sample, N=135. There were no changes in all background information at post-testing except the family size in the home group increased slightly, but this did not affect the overall (mean) family size. Chi-square analysis was made on frequency responses between groups.

\*\*p<.00; \*\*\*p<.000



### **3.1.6 FBQ findings: Preschools compared (care vs educational)**

Table 7 shows the percentage findings from the FBQ comparing differences between preschool orientations (care and educational). There were no significant differences between preschool groups for any of the home background items measured, yet there were some interesting differences worth mentioning. The percentage of working mothers in the care group was higher than the number of working mothers in the educational group, yet mothers from the educational group employed more domestic help in their homes. In part, there might be two reasons for this occurrence. First, there were more reported extended family members living in the households of the educational group (30.7%, 19.5%) and secondly, in the educational group there were more mothers over thirty years old (44%), compared with the mothers at care orientated preschools (32%). Therefore, with more people in each household and older working mothers in the educational group, they may have required more help in the homes.

Both parents from the educationally orientated preschools spent more time playing per day with their children and played for longer periods of time than the parents from the care orientated preschools. More mothers from the educational group read to their children than their counterparts from the care group. Nearly equal number of parents from both groups (care and educationally orientated preschools) told stories to their children. Furthermore, mothers in the educational group more often rated their children as 'well behaved' and 'behaved' (60.8%) when compared with mothers in the care group (47.6%). A higher percentage of mothers from the care group rated their children's behaviour as 'sometimes naughty' (50%) as opposed to mothers from the educational group (39%).

**Table 7:**

**FBQ findings: Percentage ratings between preschool by orientation: Care and educationally orientated**

	Care	Educational	chi-sq value
Working Fathers	95.5%	97.6%	.39
Working Mothers	42.2%	40%	.04
Domestic Help	52.6%	63.6%	1.6
Relatives living in households	19.5%	30.7%	2.1
% of mothers who played daily with child > 1 hour	70.4%	74.9%	.2
2 hours per day	31.8%	40.9%	1.1
% of mothers who took care of child the most	84.7%	90.0%	.38
Age of mothers > 30 years	32.4%	44.3%	1.6
Watched T.V daily	40.9%	33.26%	.7
% mothers told stories	83%	82.6%	0
% mothers read stories	51%	68%	3.6
% of fathers who played daily with child >1 hour	34%	51.2%	3.6
Child's behaviour (behaved)	47.6%	60.8%	1.5
(sometimes naughty)	50%	39%	1.1
Homeowners w/ gardens	65%	53%	1.6
	54.6%	65.9%	1.6

Note. There were equal number of children in both groups at pre-testing, care: n=48; educational: n=48. The source of data was drawn from those items that indicated differences at study entry. Information collected at post-testing showed no changes on all background information, except that family size increased slightly for the home group but this did not affect the overall average family size.

Chi-square analysis on frequency responses between groups.

\*p<.0; \*\*p<.00

### **3.2 Teacher Questionnaire/Interview (TQ):**

Classification procedure for categorizing preschools by orientation (care and educational)

As mentioned earlier (section 2.4, Design and Sample), preschool provision in Bahrain has not been 'classified' according to type of orientation or practice. The allocation of centres to categories (care-orientated or educationally-orientated) was made by the procedure described in the Teacher Questionnaire/Interview (TQ). This questionnaire is an adaptation drawn from two sources: the Revised Child Management Scale (RCMS) by King, Raynes, and Tizard, *Patterns of Residential Care* (1971); and the Staff/Foster Parent Attitude Scale (ST/FPAS), originated by Cawson and Perry (1977) and contained in, *Dimensions of Substitute Child Care* by Colton (1988). It was administered twice: once in a pilot study and then again, in the main sample. Twenty-four teachers were randomly selected each time, two from each preschool (N=12).

For clarity, further background information is provided on the construction of the scale for this study. The procedure and the results will follow afterwards.

#### **3.2.1 Background on RCMS and ST/FPAS (with reliability) and selection of items drawn for Teacher Questionnaire/Interview (with validation)**

The *Revised Child Management Scale* (King et al., 1971) was designed to compare care practice in special foster homes and Children's Homes for older children in local authority care in the UK. Most of the original 16 items on the rating scale were adapted and used in the TQ in this sample. Items from the revised scale that did not pertain to preschool settings were omitted. Additionally, 100% of the items adapted from the original scale, known as the *Inmate Management Scale* (King et al, 1968) and used in a study by Bekman in Turkish preschools, were used for this sample (Bekman, 1982). In total, there were eighteen items listed for the Structure/Management(SM) portion of the Teacher Questionnaire/ Interview.

The *Revised Child Management Scale* concentrates on four areas of child management and staff-child interaction: 1) the rigidity of routine 2) block treatment of children 3) depersonalization of children, and 4) the social distance maintained between children and staff. King and his colleagues (1971) defined

the management practices as *institutionally-orientated* when 'they are inflexible, regimented activities from one day to the next and from one . . . (child) to another' (Tizard, Sinclair & Clarke, 1975). Individuals in different situations are treated as though they were in the same situation and changes in circumstances are not taken into account. Children are all dealt with as a group - before, during or after any specific activity. There is an absence of opportunities for self-expression between the staff and the child and both live in separate worlds. *Child-orientated* management practices were defined as flexible, being adapted to take into account individual differences among the children or different circumstances. Children are given opportunities to show initiative and share the same living space with the adult, allowing for 'functional' interaction (Tizard et al., 1975). Children are allowed the option to participate or not in given activities.

As its authors intended, the *Revised Child Management Scale* addresses factual items which refer to everyday practices, rather than items which attempt to measure staff opinions or refer to hypothetical and rarely occurring events. This explicit feature of the scale was thought to be ideal for this researcher in that it allowed for no conjecture on the part of the teachers. Items are scored on a three-point rating scale. A score of 0 indicates child-orientation, while a score of 2 indicates institutional-orientation. Where the pattern revealed a mixture of institution-orientation and child-orientation, a score of 1 was recorded. The maximum possible total score was 36 (18 x 2), with a minimum possible score of zero.

King, Raynes & Tizard (1971) carried out item analysis following procedures suggested by Maxwell (1961). An unbiased estimate of reliability of .95 was given for the RCMS and .90 for the ST/FPAS (Colton, 1988).

The second part of the TQ contained twenty three items selected and adapted from the *Staff/Foster Parent Attitude Scale (ST/FPAS)* (Colton, 1988). It will be referred to as the Staff Attitude Scale (SAS) for this study. The SAS measures caretaker attitudes towards children, i.e. how caretakers perceive children. The scale takes on a form of *traditionalism* because it seems to reflect the extent to which caretakers accept traditional values of orderly behaviour, outward expression of respect and firm discipline (Cawson & Perry, 1977). Some of the questions from the scale were not suited for preschool institutions and were omitted, while 20% of those items selected were amended, often changing/omitting words such as *foster parents*, *this kind of child*, and *natural parents*. Statements, such as: "A child who is cheeky to teachers should not be

*allowed to get away with it: "* (Colton, 1988, p. 255) and, *"Children need to learn that teachers know what is good for them ,"* (adapted item shown in TQ in Appendix H) are examples of the items asked. All items are rated on a scale from 1, strongly disagree to 5, strongly agree. The maximum possible score was 115 (23 x 5) and the minimum possible was 23. Higher scores indicated practices with an institutional orientation, while lower scores were representative of a child-orientation practice.

In total, forty one questions, inclusive of the structure/management and staff-attitude items, comprised the Teacher Questionnaire/ Interview (TQ). It was translated into Arabic by two faculty members, using the back-translation process described by Brislin, Lonner & Thorndike (1973) (see Appendix B for further details on the back-translation process used throughout this study).

Two jurors, both colleagues in the Department of Education at Bahrain University, rated each item on the questionnaire for the degree to which it 'tapped' the construct. A Likert rating scale was used which ranged from 1, indicating a strong relevance, to 5, indicating little relevance. The inter-judge agreement (content validation) yielded a kappa coefficient of .67. A test of significance for the k coefficient was made to determine whether the observed value was greater than the value which would be expected by chance. The observed degree of agreement reflects a reliable measure of agreement ( $z=2.32$ ,  $p<.05$ , two-tailed). Several items from this procedure were adjusted which led to an 100% agreement between jurors.

### **3.2.2 Pilot study: Teacher Questionnaire/Interview**

The Teacher Questionnaire/Interview (TQ) was applied in twelve different preschool centres by two interviewers for the pilot study. The questionnaire was administered individually to each teacher in the form of a highly structured interview. Some items were reworded for the sake of clarity and often examples were needed for explanation. Two teachers were selected from each preschool, with the exception of two preschools where only one teacher agreed to be interviewed. The actual procedure time varied between 45 minutes to 1 hour and 30 minutes per teacher. The reliability of the information was assessed by comparing responses elicited by the two interviewers from the same interviewees. The level of agreement between interviewers was 89 per cent.

### 3.2.2.1 TQ: Methods and analysis - Pilot study

For the pilot sample, 70% of the teachers were between 21-29 years of age and most were single (55% single; 45% married). The majority (60%) had taught preschool children for 1-5 years and most (80%) had educational qualifications not exceeding the secondary school level. All were female and Bahraini nationals. The administration of the TQ was conducted in Arabic.

For the Structure/Management, the maximum possible total score was 36 (18 x 2), with a minimum possible of zero. For the Staff Attitudes Scale, the maximum possible score was 115 (23 x 5) and the minimum possible was 23. In order to describe preschools according to a category (care or educational), defensible cut-off points were designated as follows: those institutions that had a total score on the Structure /Management scale that was less than 18, and a total score on the Staff Attitudes scale that was less than 69, were designated as instructional/educational (more child-orientated). Those with respective scores that were higher than 18 and 69 were designated as care-orientated. Where total scores fell on the cut-off points (either 18 or 69) or where total scores produced conflicting classifications (very high score in one scale and very low score on the other scale, e.g. 8 and 100), the school was identified as unclassifiable, indicating a mixed pattern possibly of care and instructional practice (see Appendix C for further explanation on cut-off points). The cut-off points were determined by median scores on statistically adjusted distributions.

Table 8 shows the total scores for the Structure/ Management Scale and the Staff Attitude Scale with the designated classifications for the pilot study sample.

Table 8:

**Total scores for the Structure/Management Scale (SM) and  
the Staff Attitude Scale (SAS) with designated preschool  
classification (pilot study)**

(Preschool)	SM scores	SAS scores	Designated classification
<b>Care-orientated (institutional)</b>			
1	19	90	
	18	94	"
2	21	82	"
	24	91	"
3	27	107	"
	25	93	"
4	22	99	"
	23	89	"
5	18	91	"
	18	90	"
Total	210	926	
Mean	21.5	92.6	
6a	13	69	<b>unclassifiable</b>
7a	17	72	"
<b>Educational (instructional)</b>			
8	11	59	
	15	58	"
9	9	49	"
	9	45	"
10	16	67	"
	14	65	"
11	8	66	"
	13	64	"
12	15	62	"
	12	53	"
Total	122	588	
Mean	12.2	58.8	
<p>Note. Higher scores indicate institutional (care-orientated) type management practices, while lower scores indicate instructional (educationally-orientated) type of management practices. See Appendix C for explanation on cut-off points.</p> <p>a. indicates conflicting scores that either fall on cut-off points or had high/low conflicting combinations of scores.</p>			

Scores reveal that of the 12 preschools assessed in the pilot study, five were classified as being instructional/educational in practice and five were classified as care-orientated. Two preschools were defined as unclassifiable because, either the scores obtained produced conflicting classifications or they fell on a cut-off point.

Two separate analyses were carried out on the questionnaire data: one on the Structure/Management Scale and the other on the Staff Attitudes Scale.

First, split-half reliabilities were examined separately for both the SM and SAS in order to check the internal consistency of each scale. This was done by dividing the test items into two equal groups (odd and even numbered items). Then the pairs of scores are computed for the correlation and 'corrected' so that the coefficient applies to the whole test (Wonnacott & Wonnacott, 1990). The results yielded the corrected correlation coefficients of  $r=.528$  ( $df=22$ ;  $p<.01$ ; two tailed) for the Structure/Management Scale, and  $r=.927$  ( $df=22$ ;  $p<.001$ ; two-tailed) for the Staff Attitude Scale (Pearson-product-moment correlation).

When scores on the Structure/Management Scale were compared between the 'care-orientated' and 'instructional' (educational) groups, results showed significant findings ( $U=4.5$ ;  $N=10$ ;  $p<.01$ ; two-tailed; Mann-Whitney U Test). Similar findings were recorded for the comparison of scores on the Staff Attitude Scale. ( $U=0$ ;  $N=10$ ;  $p<.01$ ; two-tailed, Mann-Whitney U Test). Clearly, scores from the instructional group differed from those scores obtained by subjects in the care-orientated group. The Mann-Whitney U test was appropriate for this analysis because of the nature of the data (ordinal) and that it makes no assumptions about of the shape of the population distributions which allows one to determine whether the probable chance of two sets of rankings were drawn from the same population or not.

### **3.2.3 TQ: Methods, procedure and analysis (including reliability): Main sample**

#### **3.2.3.1 Description of the main sample**

For the main sample, the Teacher Questionnaire/Interview was applied on a sample of twenty four teachers from twelve different preschools aside from those selected for the pilot study. The preschools were chosen (stratified random



sampling) from the four main geographical regions (Table 1) and two teachers were randomly selected from each preschool to participate in the study. All preschools in the sample served children of working class families. The backgrounds of the preschool centres were matched on the following variables: total number of children served in each centre (80-110 children), age range of children served (3-6 years), teacher salary range (75-85BD month), tuition fees (25-30BD monthly with transport), operating hours (7.30a.m.-1pm: Sat-Wed), type of organization (all privately owned), language of instruction (Arabic), and nationality of teachers and students (100% Bahraini).

From the main sample, nearly 71% of the teachers interviewed were between the ages of 21-29 years with no one over the age of 39 years, which was similar to the findings from the pilot study. The majority of teachers were married (54%; 46% single), and nearly all had completed high school (96%). Only one teacher was a university graduate (BS Engineering). She opted for a career in preschool education for religious reasons. Out of the total, only 8% had received any type of teacher training. There was little variation between them in the number of years of teaching. Overall one-third had taught for 1-5 years and one-third for 6-10 years. The other third accounted for less than one year or over eleven years teaching. Most teachers (71%) had not attended special workshops to help them in their teaching careers.

### 3.2.3.2 TQ: Methods and procedures for main sample

Procedures used in administering the Teacher Questionnaire/ Interview for the main sample were similar to those used in the Pilot Study with two interviewers present and recording throughout each interviewing session. The twelve preschools in the main sample were identified as either care-orientated or educationally-orientated according to the classification method previously described, i.e. classification in terms of the designated cut-off points for both scales: the SM and the SAS. There were six preschools identified in each group, care-orientated and educationally orientated making twelve teachers per group.

Internal consistency of the scale (reliability) was calculated using the split/half reliability measure (Pearson product moment correlation for each set of scores: Structure/Management and Staff Attitudes). The corrected coefficients for the SM scale was  $r=.83$  ( $df=22$ ;  $p<.001$ ; two-tailed) and  $r=.55$  ( $df=22$ ;  $p<.02$ ; two-tailed) for the SAS scale, indicating significant correlations for both halves of the Teacher Questionnaire.

For the analysis of data from the main sample, each scale's analysis and results (SM and SAS) was treated separately and will be presented accordingly.

### 3.2.3.3 TQ: Results - Structure/Management Scale (SM)

When the results were analysed from the two sets of scores for preschools identified as care-orientated and educationally-orientated it was found that care orientated centres were more likely to be institutionally maintained, whereas in educationally orientated centres, the structure/ management was child-orientated. Table 9 gives the mean scores obtained for the preschool centres by orientation (care and educational) on the Structure/Management Scale.

Table 9:

#### **Total and mean scores on the Structure/Management Scale by preschool orientation**

	<b>Educationally Orientated</b>	<b>Care Orientated</b>
<b>Preschools</b>		
1. teacher a	13	24
teacher b	5	27
2.	13	24
	11	27
3.	11	25
	10	25
4.	14	20
	10	24
5.	13	20
	10	19
6.	13	23
	16	22
Mean	<b>11.6</b>	<b>23.3</b>
Total	139	279.9
Note. Each preschool had two teachers participate in the questionnaire/interview		

In order to compare differences between the centres, the Wilcoxon-Mann-Whitney statistical procedure was applied. According to Siegel and Castellan (1988) this statistical test makes no assumption about population distributions and where

samples are greater than 10, it will allow one to see if scores differ (more or less) with one another. Significance of the observed value  $W_x$  was determined by a  $z$  score ( $z < -2.07$ ;  $p < .05$ ; two-tailed).

The rating scale reflected different management scores for the preschool centres in relation to the four components comprising the Structure/ Management Scale: rigidity, block treatment, depersonalization and social distance. Each area is characterized by behaviours represented in the items (Table 11) of the scale, e.g. rigidity is when children have set times and schedules for activity; block treatment refers to behaviours that stress group managing; depersonalization implies behaviours which de-emphasise individuality; and social distance ascribes to behaviours where adults avoid close contact with children. Table 10 gives the differences in mean scores in the four areas when the care orientated centres were compared with the educationally orientated.

Table 10:

**Mean scores for Structure/Management Scale<sup>a</sup>  
according to its four components: Rigidity,  
Block Treatment, Depersonalization, and  
Social Distance (by preschool orientation)**

	<u>Care</u>	<u>Educational</u>
<b>Rigidity (3)</b>	1.19	.81
<b>Block Treatment (5)</b>	1.37	.99
<b>Depersonalization (6)</b>	1.27	.39
<b>Social Distance (4)</b>	1.13	.42
<p>Note. The researcher realises that once ordinal scaling is assumed, a Mann-Whitney U Test cannot be used to decide whether two groups of scores differ specifically in their means, i.e. it is not analogous to a t-test. However, the Mann-Whitney U Test, "allows us to test the general hypothesis that one set of scores tend to be higher (or lower) than another set." (Miller, <i>Experimental Design and Statistics</i>, 1984).            Parenthesis denote the actual number of items in each category.            a. The items for the S/M scale are described in Table 11.</p>		

The mean scores are graphically illustrated in Figure 1. Further analysis was carried out to test the difference in the frequency of responses between the two groups, using chi-square analysis.

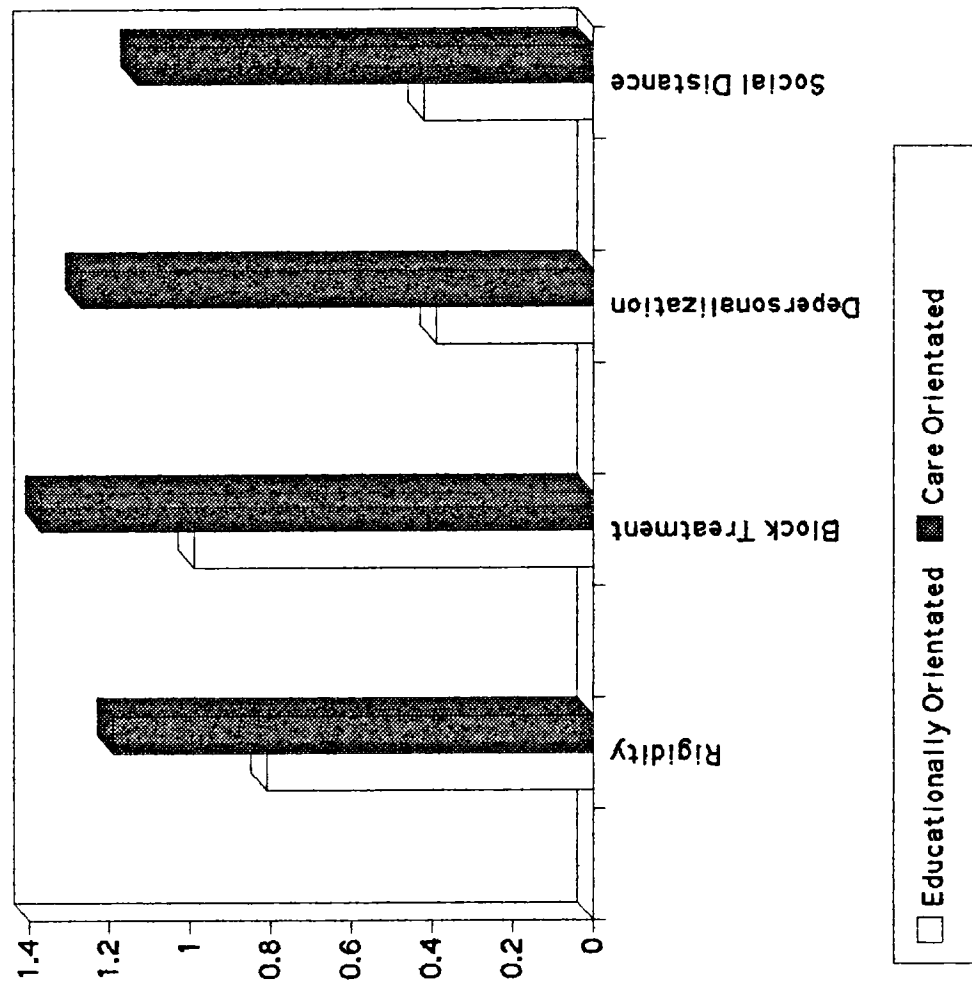
Table 11:

**Differences between frequency responses:  
Structure Management Scale**

<u>Item: (Description: Abbreviated)</u>	<u>chi-square</u>	<u>p</u>
b1. (children wait as group before eating)	3.3	n/s
b2. (children wait as group before using bathroom)	1.3	n/s
b3. ( sitting before eating- minutes)	4.2	.05
a4. (use playground at set times)	6.3	.02
a5. (expected to do same activity when all together)	3.4	n/s
b6. (wait in line before coming into class from outdoors)	0.9	n/s
c7. (allowed to bring toys from home)	6.3	.02
c8. (allowed to bring books from home)	4.7	.05
c9. (wear uniforms)	5.3	.05
c10. (where are personal belongings kept- individual, shared, communal)	1.0	n/s
d11. (staff eat with children)	9.4	.01
d12. (staff assist child with toilet)	7.0	.01
d13. (children have access to all areas of school)	4.5	.05
d14. (children have access to all equipment)	3.6	n/s
a15. (% of children on outings with staff in last 3 months)	1.3	n/s
c16. (child's work displayed in classroom at child's eye level)	17.1	.001
c17. (hours per day for playing)	15.6	.001
b18. (activities directed by teachers: few, many, all)	6.1	.02
<hr/>		
df=1		
Note. The significant differences found between groups by the item analyses using the chi-square formula, corresponded with the differences observed between the mean scores per item.		
a. Rigidity		
b. Block treatment		
c. Depersonalization		
d. Social distance		

Figure 1:

MEAN SCORES FOR STRUCTURE/MANAGEMENT SCALE ACCORDING TO IT'S  
FOUR COMPONENTS: RIGIDITY, BLOCK TREATMENT, DEPERSONALIZATION,  
AND SOCIAL DISTANCE BY PRESCHOOL ORIENTATION--Care and Educational



For the sake of clarity the results from the findings (mean scores by items and chi-square differences) will be discussed in the contents of the four categories within the Structure/Management Scale.

### 1) Depersonalization

Differences between care and educational groups were greatest with the items depicting the behaviours associated with the depersonalization component of the Structure/Management Scale. The mean scores for the total six items showed .39 for the educational group and 1.27 for the care group. Two of the items (#7 & #8) asked teachers if they would allow children to bring toys or books from home. Teachers at the care orientated preschools were more inclined not to allow children to bring toys from home (chi-square=6.3,  $p<.02$ ). Some felt that if they did allow such a provision it would only create problems. Allowing books from home was confronted with less objection (chi-square=4.67,  $p<.05$ ) from teachers at educational centres but was often restricted to what they felt was appropriate. On the other hand, the teachers at the educational preschools generally welcomed the children's' personal belongings from home. They saw it as an opportunity for sharing and expressing new ideas.

The educational group was also favoured on the item addressing the absence or presence of children's work, photos and pictures displayed in the classroom (Item 16: chi-square=17.14,  $p<.001$ ). All teachers at the educational preschools agreed that children's work should be displayed throughout the school and at the child's eye level. In contrast, teachers at the care preschools often posted pictures and posters they had made themselves, neglecting to recognise the importance of displaying the child's work in the classroom. In most care centres these displays did not change throughout the academic year. On occasion, when children's work was displayed at the care preschools, it was usually art work that the entire classroom copied together and was out of the eye range of the child. Teacher's responses also differed significantly on Item 17 when asked the how long children were allowed to play each day (chi-square=15.6,  $p<.001$ ). According to teachers, children in educationally orientated centres played more, indoors and outdoors when compared with children at care orientated centres.

Teachers from both preschool settings provided children with personal storage facilities for their belongings (chi-square=1.04). Most teachers believed that children in preschools should wear uniforms, with teachers at care centres were more inclined to emphasise and enforce this regulation (Item 9: chi-square=5.32,  $p<.05$ ).

## 2) Social Distance

There were four items in the social distance category. Again, the educational group scored lower than the care group, indicating management behaviours to be more child-orientated ( $M$ : educ=.42; care=1.13). Staff at the educational preschools were more likely to eat with children than staff at the care preschools (Item 11: chi-square=9.43,  $p<.01$ ). They were also more inclined to assist children with toilet duties (Item 12; chi-square=7.0,  $p<.01$ ) when necessary. Teachers at the care-orientated preschools tended to delegate this duty to assistants or aides. The two other items in the social distance category pertained to the children's complete access to areas of the school and the equipment. Findings showed that children at the educational preschools had a greater degree of freedom within the school space provided (Item 13; chi-square=4.54,  $p<.05$ ) and with the use of its equipment (Item 14: chi-square=3.63).

## 3) Block Treatment

Most of the items in the block treatment category addressed behaviours associated with the management of children as a group. Three out of the five items centred around children waiting in a group, i.e. waiting in a line, waiting together before eating, and waiting before washing-up. Both groups responded similarly, indicating that set routines for managing children in groups were likely to be found in both types of preschool settings. The one exception found was children at educational preschools waited less before eating at snack time (Item 3:  $M$ : educ=.05; care=.67; chi-square=4.22,  $p<.05$ ). Most activities throughout the day were directed by the teachers in the educational group, whereas fewer lessons, games and exercises were directed by the care orientated teachers (Item 18, chi-square=6.09,  $p<.02$ ). Between these lesson times at care-orientated centres, children sat for long periods of time.

## 4) Rigidity

On two items in the rigidity section of the scale, there were no significant differences found between teacher's responses from care and educational preschools. There was little difference in the way children from both groups went on field trips and outings (Item 15, n/s). Most children travelled outside at the same time, all going to the same attraction. Teachers expected children to do the same activity when together and there was no significant differences between the groups on this item. Both groups had scheduled daily times for outdoor play yet

the staff at the educational centres tended to allow for more flexibility (Item 4, chi-square=6.32,  $p<.02$ ). The mean score for the care orientated group (care=2.0) indicates that staff did not vary on this practice, whereas staff in the educational group on occasion altered their scheduling (education=1.5).

### 3.2.4 TQ: Results - Staff Attitude Scale

The results from the second part of the TQ, the Staff Attitudes scale, indicated a significant difference in scores between care orientated and educationally orientated preschools. ( $U=2.0$ ;  $p<.01$ ;  $N=12$ ; Mann-Whitney U Test). Table 12 shows mean scores of 49 for educationally orientated preschools and 91.2 for care orientated preschools with the higher mean scores reflecting institutional-type care and the lower mean scores indicating instructional (educational) practice.

Table 12:

**Total and mean scores for Staff Attitude Scale  
according to preschool orientation  
(care and educational)**

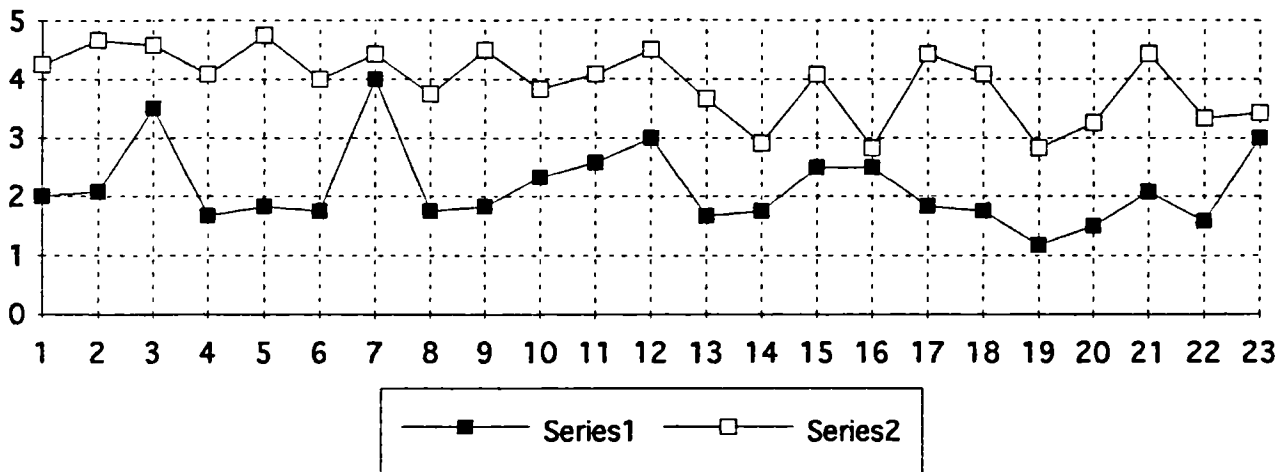
	Mean	Total
<b>Care orientated</b>	91.3	1094.0
<b>Educationally orientated</b>	49.0	588.0

When the mean scores of the twenty three items were compared, results indicated a difference between the scores for the teacher attitudes at the educationally orientated preschools and care-orientated preschools. (see Table 13, Figure 2).



**Figure 2:**

**Mean scores: Staff Attitude Scale (23 Items) by preschool orientation (care or educational)**



**Note.** Series 1: educational; Series 2: care. The range of mean scores per item (1, strongly disagree to 5, strongly agree).

**Staff Attitude Questions (abbreviated)**

1. maintain order and child obey rules and authority
2. good children obey rules and routines
3. children need supervision to avoid trouble
4. children who choose their own activities are likely to get into mischief
5. children should receive reward for good behaviour
6. children are too young to have a say in daily activities
7. practical experience is more important for staff than academic training
8. children should be protected from tasks that are too difficult
9. children should be kept away from discouraging tasks
10. it's better to trick a child into doing something rather than make an issue
11. a child who is cheeky should not be allowed to get away with it
12. children need to learn that teachers know what is good for them
13. teachers who insist on a show of respect from children are more concerned with their own status than with the child's need
14. children who use staff first names have little respect for them
15. staff should not refer to each other by first name in front of children
16. staff being too friendly with children makes for poor discipline
17. it's better to keep communication to a minimum between staff and family
18. educational toys should be kept in cupboards and staff decide when to use them
19. it's best to leave a troubled child to him/herself and not try to get him/her talking
20. it's risky for staff to delve too deeply into a child's problem
21. when children are worried, it's best to keep their minds off it
22. most children cannot tell right from wrong
23. children who make a lot of noise are troublemakers

Table 13:

**Mean scores on items for the Staff Attitude Scale  
according to preschool orientation**

<b>Item: Descriptions (abbr)</b>	<b>Educational</b>	<b>Care</b>
1. (maintains order, obeys)	2.0	4.25
2. (good children obey rules)	2.08	4.67
3. (supervision avoids getting into trouble)	3.5	4.58
4. (children choosing activities leads to mischief)	1.67	4.08
5. (rewards for good behaviour)	1.83	4.75
6. (child is too young to have a say)	1.75	4.0
7. (practical experience more important than academic training)	4.0	4.42
8. (protected from difficult tasks)	1.75	3.75
9. (kept away from discouraging tasks)	1.83	4.5
10. (better to trick a child than to make issue)	2.33	3.83
11. (a cheeky child should not get away with it)	2.58	4.08
12. (teachers know what is good for children)	3.0	4.5
13. (teachers insist on outward show of respect)	1.67	3.67
14. (using staff's first names shows little respect)	1.75	2.91
15. (staff should not use their own first names in front of children)	2.5	4.08
16. (friendly staff makes for poor discipline)	2.5	2.83
17. (minimum communication: staff & family)	1.83	4.42
18. (staff decide when to use educational toys)	1.75	4.08
19. (leave troubled child to him/herself)	1.17	2.83
20. (risky for staff to delve into child's problem)	1.5	3.25
21. (worried child: best to keep mind off it)	2.08	4.42
22. (most children cannot tell right from wrong)	1.58	3.33
23. (noisy children are troublemakers)	3.0	3.42

Note 1. more complete descriptions for items are given , Figure 2.  
Note 2. mean score range: 1, strongly disagree to 5, strongly agree

The range of scores for the educational group was 1.17 to 4.0 and 2.83 to 4.67 for the care group. Figure 3 illustrates scores along a horizontal line with two opposing directions - those scores in the direction towards smaller numbers indicating instructional (educational) attitudes and scores in the opposite direction indicating higher scores which represent institutional-type attitudes.

The differences in frequency of responses between the two groups on the 23 items in the Staff Attitude Scale were analysed by the chi-square formula. The results are shown in Table 14.

**Range of Scores on the Staff Attitude Scale**

**Figure 3:**

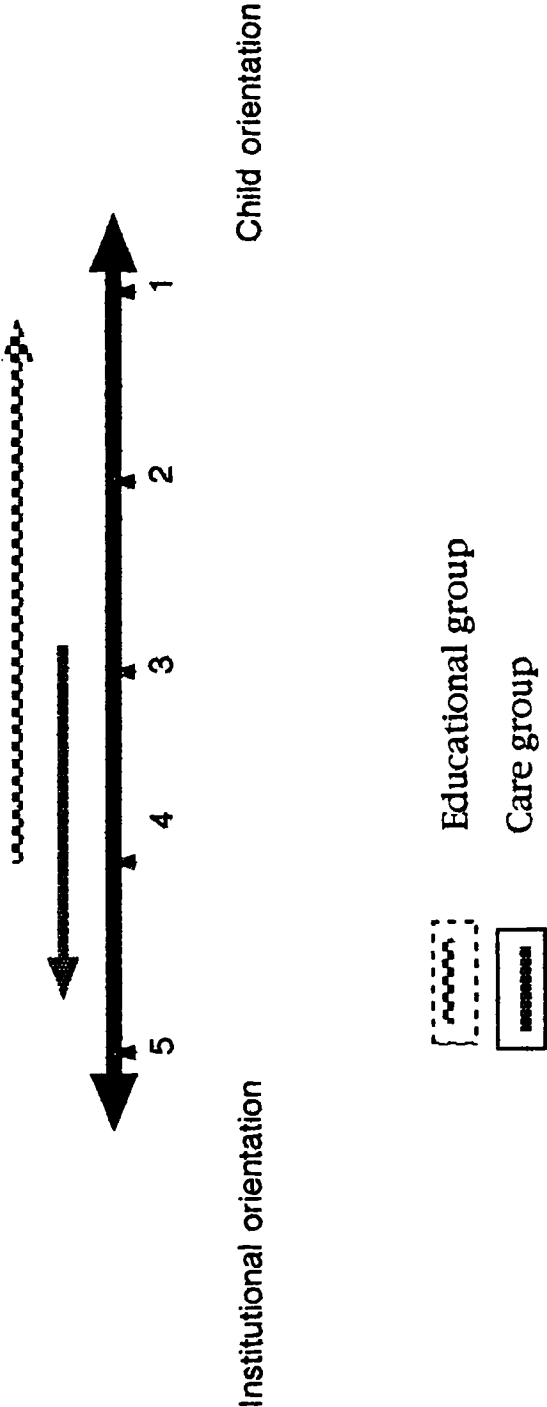


Table 14:

**Differences between the frequencies on items:  
The Staff Attitude Scale**

<u>Items</u>	<u>chi-sq</u>	<u>p</u>
1.	13.03	.001
2.	15.36	.001
3.	4.48	.05
4.	13.78	.001
5.	23.0	.001
6.	12.23	.001
7.	7.1	.01
8.	15.24	.001
9.	20.40	.001
10.	7.5	.01
11.	6.98	.01
12.	9.1	.01
13.	11.67	.001
14.	10.2	.01
15.	6.89	.01
16.	4.83	.05
17.	15.9	.001
18.	11.05	.001
19.	13.33	.001
20.	17.4	.001
21.	14.1	.001
22.	7.94	.01
23.	8.78	.01
Note. Significant differences were found on all 23 items, notably for the educationally-orientated group df=1		

The results indicated that the educational group received a total of lower mean scores on all 23 items contained in the Staff Attitude scale (Table 13). Differences between mean scores and the frequency responses by item, varied for each group. The greatest differences occurred on items which intended to encourage and promote autonomy, involvement, and personal freedom and expression: giving rewards to children for good behaviour (Item 5, chi-square=23,  $p<.001$ ); keeping children away from tasks which are discouraging (Item 9, chi-square=20.4,  $p<.001$ ); tasks which are too hard or tiring (chi-square=15.2,  $p<.001$ ); describing a good child as one who always obeys the rules and respects authority figures (Item 2, chi-square=15.4,  $p<.001$ ); and whether or not to keep communication with the parents about the child to a minimum level (Item 17, chi-square=15.9,  $p<.001$ ). To some extent it would appear that teachers at educational centres viewed children's 'goodness' differently from those teachers at care orientated centres. They were less likely to see children as mischievous

when left on their own (Item 4;  $p < .001$ ) and needing to be obedient at all times (Item 1;  $p < .001$ ).

Teachers differed significantly on item 14: *Children who are allowed to use staff first names or nicknames will usually have little respect for them* ( $p < 0.01$ ). The teachers at care centres were more likely to think children needed to learn that teachers know what is good for them (Item 12,  $p < .01$ ). This authoritarian attitude of teacher-knows-best was also present in Item 6 which asked the teachers if children should have a say in the days schedule of activities. Teachers in the care group were more likely to see children as immature and incapable of making decisions and therefore did not consider their views or interests in planning daily activities ( $\chi^2 = 12.2$ ,  $p < .001$ ).

Three items on the scale focused on situations involving a child with problems (Item 19-21). These questions appeared to have evoked considerable thought and were not readily answered by both groups of teachers. Significantly more teachers at the care orientated preschools agreed that it was best to leave a troubled child and not try to talk to him/her when compared with teachers at the educational centres. They were also more inclined to agree with the statement that it was risky to delve too deeply into a child's problem (Item 20,  $\chi^2 = 17.4$ ,  $p < .001$ ). If, for example, a child was worried about his family, a significantly higher number of teachers at care settings (when compared with teachers at educational settings) agreed that it was best to try to keep his/her mind off of it ( $\chi^2 = 14.10$ ,  $p < .001$ ) by distraction. This reported lack of personal involvement and attention by the teachers in the care orientated group was supported in the earlier research findings by King, Raynes and Tizard (1971) and Colton, (1988) with children in residential care. It is similar to the attitude described from several studies on teacher's behaviours in day care research (Bain & Barnett, 1980; Clark, 1988; Clarke-Stewart, 1988; Field, 1991; Hennessy, Martin, Moss & Melhuish, 1992; Howes & Olenik 1986; Zigler & Hall, 1988). The three items which gave the least amount of differences between staff attitudes in the both groups were: staff being friendly with children makes for poor discipline (Item 16,  $p < .05$ ); practical experience is more important for staff than academic training (Item 7); and children who make a lot of noise and move about are usually the troublemakers (Item 23).

---

Footnote2. For this item, the small difference between mean scores can not be conclusively stated, as the wording in the statement was changed slightly in translation i.e., 'poor discipline' was translated to "dheleh", meaning 'spoiled' in Arabic. As Brislin points out, even in the most thorough of translation processes, there are frequent occasions when the target language (Arabic) is not synonymous with the original language (English) (Brislin et al, 1973). In this particular case, the researcher suspects a possible discrepancy which may have some bearing on the score differences for this item.

In sum, it would appear that there are significant differences associated with the those preschools that practice more child-orientated educational approaches when compared with preschools where institutional approaches are employed. Many items within the Staff Attitude scale reflected the implied behaviours found in the Structure Management scale, i.e. obeying rules, respecting authority figures, regimentation of activities, lack of individual choice and so on. The Staff Attitude scale indirectly addressed these behaviours by eliciting the attitudes and opinions of the teachers. As a rule, throughout the administration of the interview, the teachers responded stating their own personal views. Whether these views were in keeping with their actual behaviours practiced at the preschools cannot be conclusively stated without further consideration of the actual observed behaviours which was investigated in Chapter 6: Investigation of Some Aspects of Early Childhood Environment.

The problem of classifying provision is a difficult and tenuous one, particularly when the boundaries between care and educationally - orientated preschool practice often overlap. Yet with all comparisons, groups are described by their characteristics, of which, structure management practices and staff attitudes have been carefully considered for the classification procedure in this study. Certainly, there are several other factors which play an influencing and direct role in identifying differences between preschool practice, some of which will be discussed in the following investigations.

## **Chapter Four**

### **Child assessment outcomes and results:**

**The Stanford-Binet Intelligence Scale, Form L/M (SB)**

**The Wechsler Preschool and Primary Scale of Intelligence (WPPSI)**

**The Draw-A-Person Test (DAP)**

**The Preschool Behaviour Checklist (PBCL)**

**The Perceived Competence and Social Acceptance Scale (PSPCSA)**

## Chapter Four

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## Chapter Four

### 4.0 Child assessment outcomes and results:

This section includes the analyses and results on assessments used to measure children's performance in the three preschool settings: care, educational and home (Table 4). Each assessment is presented by a description and background of the instrument; an analysis of the outcome measures; and a brief individual summary. Collectively, all the measures provided a composite profile of children's developmental skills and abilities (cognitive, social and emotional) in Bahrain.

There main reasons for selecting the instruments used to assess child development were :

- 1) Several of the instruments (Stanford-Binet, WPPSI and DAP) had already been standardised and culturally adapted to several Arab speaking populations.
- 2) Local educators, government and ministry officials are familiar with the instruments used in this study, particularly the psychometric assessments.
- 3) The instruments were carefully selected in order to provide a 'profile' on several measured outcomes of child development (cognitive, social and emotional). For the cognitive domain, four different assessment were chosen: the abbreviated L/M Form of Stanford-Binet which measures IQ, perceptual, sensory-motor and language abilities; the two subtests from WPPSI, the Arithmetic and Block Design which provide an assessment of the child's ability in classification, seriation, discrimination of size, quantity, spatial relationships and perceptual organisation; and the Draw-A-Person which measures the child's intellectual maturity. The assessment used for social behaviour provided an indication of the child's perceived competence and social acceptance, i.e. self concept and self confidence. Additionally the assessment used for emotional/social conduct (PBCL) provided a measurement of the child's emotional behaviour, concentration and social relations. Collectively, the assessments were seen as a composite of important outcome measures of child development for investigation and comparison of children in varying preschool settings.

#### **4.1 Pilot study: Assessments on children's developmental outcomes**

All of the six instruments used to assess the aspects of child development were pilot tested prior to their administration in the main sample.

The field work for the pilot study was conducted over a period of two months-- November and December 1991. The main objectives for this stage of investigation were twofold:

- 1) To field test the outcome instruments, asking the questions: Are they appropriate? Can they be administered?
- 2) To secure full co-operation and commitment of the centres involved, explaining what they must do to assist.

Prior to the actual pilot testing stage, a year was spent visiting, interviewing and observing a number of preschool institutions in Bahrain. A report from this initial pre-fieldwork was submitted to the Ministry of Private Education in May, 1990. Meetings and interviews were conducted at this pre-pilot stage in order to state the research objectives, discuss its application and secure the co-operation and assistance needed for this investigation. Official letters (Appendix E & F), requesting the co-operation of the head teachers, staff and students at the preschool centres in the sample, were given at this time.

##### **4.1.1 Sample for the Pilot study**

Four preschool centres were selected according to their educational or care orientations (section 3.2: Teacher Questionnaire/Interview: Classification of Type of Preschool Orientation) and the socio-economic backgrounds of the children they served. Two of the preschool centres were educational and two were care in orientation and all served children of working class families. Six students, half boys and half girls, were selected from each preschool centre. The child's age, sex, mother's age, parent's education and occupation, and length of time in attendance at the centre were matched for background. The childrens' ages ranged from 3 years, 10 months to 4 years, 8 months for the entire pilot sample (n=24). The mean age was 4.1 years for children attending educationally orientated preschools and 4.3 years for children attending care orientated preschools. The mean ages for boys and girls was 4.3 years and 4.2 years, respectively (n=24). Most of the fathers were employed (95%) and worked as

semi-skilled workers in clerical government jobs, agricultural projects, and light industry. Most of the mothers were housewives. The mothers who worked were employed as clerical workers, nursery school teachers and hospital aides. Their work was generally of a part time nature. The number of working mothers accounted for less than 10% of the total pilot sample taken from preschools.

#### **4.1.2 Procedure: Pilot study**

In co-operation with faculty staff members at the Bahrain University, four volunteers were secured for the pilot testing. All were psychology and education graduates from the Bahrain University. A two-day preliminary volunteer training session was held for approximately three hours per day. On both days the research sample and the instruments were discussed. Each volunteer was assigned to one preschool centre and they were not told which schools were educationally-orientated or care-orientated.

Due to the nature and extent of the number of assessments, the following order was adopted for administration:

1. *Draw-A-Person* was administered first. The pilot sample for each preschool was divided into three groups i.e., two students in each group.
2. The *Pictorial Scale of Perceived Competence and Social Acceptance* was administered next. Administration time was approximately 1/2-3/4 hour.
3. *Stanford-Binet Form L/M*
4. *WPPSI: The Arithmetic Subtest and the Block Design Subtest*
5. *The Preschool Behaviour Checklist* was given to the head teachers and procedures explained.

Each volunteer was accompanied by the researcher throughout the testing of children in the pilot sample.

#### **4.1.3 Results: Pilot study**

The results for the assessments administered in the pilot study are discussed under the section heading for each individual assessment used in the main sample. A more detailed and complete discussion of the procedures for

administration and sample information on the pilot study are contained in Appendix A.

## 4.2 Methods of analysis

There are several factors which go into making a decision about which method of analysis to apply when assessing data from outcome measures of child development. Size of sample, distribution of scores, composition of data, area in which sample was drawn, and previous research, are just a few of the many considerations.

The procedure for analysing the following six assessments used to study the aspects of childhood development, followed a *conditional model* (Plewis, 1985) which served the quasi-experimental design of this study with pre- and post-outcome measures. The essential question that quasi-experimental, as well as experimental studies attempt to answer, is whether the treatment had an effect: Is attendance at preschool centres associated with higher performance on developmental assessments when compared with a home group (control)?, or whether one treatment was more effective than another? This question rephrased would be, Was the change in the treatment group significantly greater than in the control group and could that change have been caused by the treatment? For all group comparisons which seek to *explain* rather than just to *describe* change, a conditional model makes the most sense because it allows for a causal explanation of the comparison of net changes, while attempting to eliminate all the relevant initial differences between the groups. Thus, the measure obtained represents an unbiased estimate of the treatment effect. Stated precisely, the conditional model allows for the analysis of variable differences between groups with the aim of identifying treatment effects on outcomes: a focus on main effects. The procedure follows:

- 1) an analysis of variance with a focus on main effects
- 2) a multiple regression analysis (with pre-test scores covaried) and
- 3) a within groups analysis, where differences between preschools in each orientation (care and educational) are considered.

Before any analyses begins, frequency distributions for all the assessments were charted and investigated. All distributions appeared to be symmetrical throughout the pilot, pre-testing and post-testing stages. Furthermore, considerable attention was given to previous research findings using these same

instruments in similar, Arab speaking populations which are discussed in the following studies and reviews (Abu Alam, 1986; Al-Jasser, 1990; Faraj, 1986; Kagitcibasi, Sunar & Bekman, 1988; Kapci, 1990).

The results of the assessments defined will be presented in the following order:

- 1) Stanford-Binet
- 2) WPPSI, Arithmetic Subtest
- 3) WPPSI, Block Design Subtest
- 4) Draw-A-Person
- 5) The Preschool Behaviour Checklist, (PBCL)
- 6) The Pictorial Scale of Perceived Competence and Social Acceptance, (PSPCSA).

As mentioned, the pilot study results will proceed the discussion of main study results, individually, with each assessment.

### **4.3 Stanford-Binet Intelligence Test (SB)**

The *Stanford-Binet Intelligence Scale* was the last test to be administered in the pilot study and the pre- and post-testing sessions.

This test has been widely used and publicised (Terman & Merrill, 1937). It is used to measure overall intellectual capacity for ages ranging from 2 years to 22 years old. There were six task items for each age interval used for testing. (Age intervals from 2 years to 5 years are in six month intervals. From year 5, ages are in full year intervals). For each child tested, a basal age is determined for the starting point of the test. This is where the child is likely to succeed and usually follows a rule of thumb as being six months to a year younger than the child's chronological age. Testing continues until the child reaches a ceiling age, which is the point where the testing becomes too difficult--failures. A mental age score is computed which yields an Intelligence Quotient (IQ) score. Standard procedures are followed for administration.

#### **4.3.1 Background on Stanford-Binet with reliability and validity:**

The original 1916 scale, *Binet-Simon Intelligence Scale* (Binet & Simon, 1916) has gone through several revisions over the years. Initially, the test assessed children from 3-16 years old, rating intellectual ability expressed in mental age scores. According to Binet, a person's relative position in that age group -average, brighter than average, or duller than average, could be computed by

the ratio of the mental age (MA) to the chronological age (CA) to yield an IQ. The IQ first employed by the 1916 scale did not separate mental faculties such as memory, attention, sensory discrimination, etc. Then in 1937 an extensive revision incorporated a standardisation procedure which provided a wider sampling of the same kinds of mental abilities, i.e. the formation of the L/M Form. To test its validity, (a) each item was shown to increase in percentage passing from the successive age levels, and (b) each subtest was correlated with the total score indicating that each (subtest) contributed to what the scale as a whole was measuring (content validity). Reliability coefficients were computed for the age levels, separately. The variability of the mental-age scores were shown to increase as age increased, i.e. a subject's fluctuation in mental age score will be proportional, not to CA, but to the variability of his mental age group. A further revision (1961) would incorporate 'best' subtests from the L/M Form and address structural changes, thus avoiding duplication of items and include an alternative subtest at each age level. A mean IQ at 100, with a standard deviation around (median) 16 was adopted.

#### 4.3.2 Background: Stanford-Binet applied in some Arab-speaking countries

An important consideration in this study was to investigate the application of the Stanford-Binet Intelligence Test in Arab-speaking locations, particularly those countries in the Middle East region. Bahrain is currently standardising the SB and it was therefore, not available at the time of this study. Neighbouring Arab Gulf States (Kuwait, Jordan, Lebanon) which share similar population characteristics (culture, religion, politics, life-styles, educational practices) have validated the SB on several different Arab-speaking samples. Some studies validated this scale with a number of other mental tests such as, the Vineland Social Maturity Test, the Draw-A-Person test, and the Thurston Battery test (Abu-Alam, 1989; Hanoora & Misri, 1987). Correlations were highest with the Vineland Social Maturity tests: .500; .450 and .410 for ages 2.5 to 4.5 years (Hanoora & Misri, 1987).

For this study the standardised version of the SB test from Kuwait was used. The reliability and validation of the scale will be discussed.

In 1989, the Stanford-Binet Intelligence Test was standardised in Kuwait by Raja Abu Alam and Kamal Mursi (Stanford-Binet Kuwait Intelligence Test, 1989, Directorate Psychiatric Research, Ministry of Education, Kuwait). In 1978, Abu-Alam made several amendments to the Egyptian and American version of the Stanford-Binet. Word lists were reconstructed for the vocabulary tests, and some pictures were altered (and excluded) from the picture naming test. These tests



were pilot tested on 100 children from 3-6 years old i.e., 43 retarded children, 51 delinquents, 20 intermediate level students, and 33 secondary level students. Unfortunately, due to inadequately trained staff and lack of financial assistance, the research was halted in 1978 and not continued again until 1986. In 1986 a renewed attempt began on the process of standardising the Stanford-Binet in Kuwait. For the main sample 603 children were selected from 2-18 years. The reliability of the amended scale was tested in two ways. A test-retest reliability coefficient was calculated on five age groups of children after a one month interval. Significant findings ( $p < .001$  level) were found. The second reliability test applied was the split/half method (internal consistency) which yielded a reliability coefficient range from .57 - .95 (Spearman-Brown formula). Significance was recorded at all age levels, indicating its suitability for administration.

To determine the validity of the Stanford-Binet Kuwait, Abu-Alam and his colleagues, chose three methods to investigate for validity. First, they correlated the Stanford-Binet tests with the school grades from 324 students in elementary, intermediate and high school classes (predictive validity). School grades were converted into t scores and compared with IQ scores. The results showed a correlation coefficient at significant levels ( $p < .001$ ), indicating the Stanford-Binet tests as good predictors of scholastic achievement. Secondly, the Stanford-Binet scores were compared with the scores on the *Wechsler Intelligence Scale for Children (WISC)* from 86 children, ranging from six years to 14 years old. The correlation coefficient between the IQ scores on both tests, showed significance at the  $p < .001$  level for all age groups, indicating external validity of consistency for the Stanford-Binet (concurrent validity). Lastly, the scale was tested to see if the mental age (MA) measured by the Stanford-Binet was affected by age. Results indicated equal increases in age coincided with increases in mental age until 17 years of age (Kuwait, 1989).

The Stanford-Binet Kuwait Intelligence Test is currently being used in Kuwait, along with the Wechsler Intelligence Scale for Children, at the Centre for Child Evaluation and Teaching to detect learning dysfunctions.

#### **4.3.3 Stanford-Binet: Applied in Bahrain**

A copy of this translated version was given to a jury of three expert researchers at Bahrain University to review for context and language (content validity). A general consensus was taken and some amendments were made to the translated version (100% agreement). The verbal passages requiring the explicit

instruction of task items were changed from colloquial Egyptian dialect into classical Arabic. This would allow the examiner to read and interpret the test in classical Arabic and administer the test in the dialect appropriate to the given Arab culture. Further explanation was given for changes made for items, e.g. vocabulary pictures (a picture of a British flag was changed to a Bahraini flag), patience pictures (a picture of a pig which is considered inappropriate for religious reasons, was changed to a fish), and naming objects - a thimble was replaced with a ball and an engine was replaced with a plate.

A test re-test reliability over a period of a two week interval on 24 children (12 from each orientation) yielded a correlation coefficient of .99 ( $p < .000$ ; Pearson product moment).

This instrument was selected to measure aspects of cognitive development for two reasons. First, there are very few instruments which have been standardised in Arab-speaking cultures and used to assess cognitive ability in young children. The Stanford-Binet has been widely used in the region and is familiar to a body of professionals and public officials upon which this study will, hopefully have a bearing. Secondly, its widespread application in several countries demonstrates its ability to assess faculties of mental constructs in different cultural contexts (validity), despite its widely debated limitations, e.g. cultural bias, psychometric measurement, 'weighted' imbalances on verbal and performance tasks, etc.

#### **4.3.4 Stanford-Binet: Pilot study results**

The test was administered to children attending preschool for the pilot sample ( $n=23$ ) that is, 12 students from care-orientated preschools and 11 children from educationally-orientated preschools (see Appendix A for more details on the pilot sample). All children were tested under similar conditions, i.e. a room with minimal distraction, within the same time span of the day, and without outside observers present.

The results yielded IQ means scores of 92.66 for the care orientated group and 109.09 for the educational group. A t-test revealed a significant difference between the total scores ( $df=21$ ;  $t=4.26$ ;  $p < .000$ ).<sup>3</sup> When subjects were grouped according to sex, results showed a significant difference between groups by gender (care and educational). Boys at the educationally orientated preschools scored higher than boys at care orientated preschools ( $df=4$ ;  $t=2.26$ ;  $p < .000$ ) and girls at educational orientated preschools scored significantly higher than girls at care orientated preschools. ( $df=11$ ;  $t=5.10$ ;  $p < .000$ ).

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Footnote 3. Some statistical results for pilot testing are included in Chapter Four. It was necessary to carry out a robust test in Bahrain of the cultural suitability of the instruments and their sensitivity to the intervention.

### 4.3.5 Stanford-Binet: Main sample

#### 4.3.5.1 SB: Method of analysis

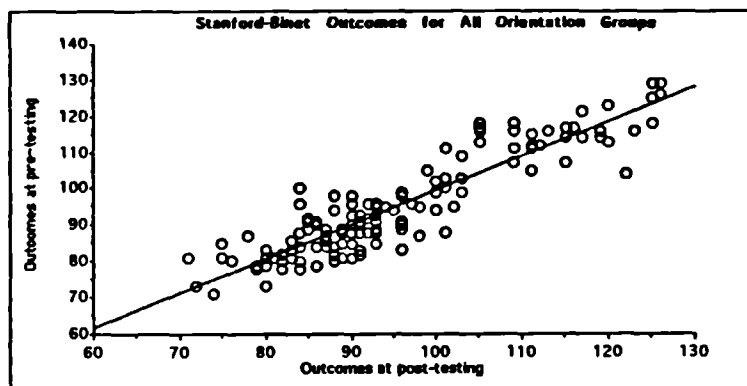
Frequency distributions were graphed for the total outcome measures according to group orientation (care, educational and home). As all groups demonstrated symmetrical distributions (and mean scores were treated as interval data) parametric statistical procedures were followed for analysis. A conditional regression model (Plewis, 1985) was followed for analysis. It considered variable differences between groups with the aim of identifying treatment effects on outcomes - a focus on main effects. This meant that an analysis of variance was conducted followed by a multiple regression analysis where background variables (Table 2) were fitted into the model and pre-test scores covaried. To ensure that individual preschools were behaving in a similar manner (one not acting higher or lower than another) a within-group regression analysis was followed.

Additionally, scatterplots were graphed (Figure 4) to show the correlations between the pre- and post-test outcomes within each group orientation (care group:  $r=.19$ ; educational group:  $r=.67$ ; and home group:  $r=.63$ ) indicating the linear relationships between outcomes measures.

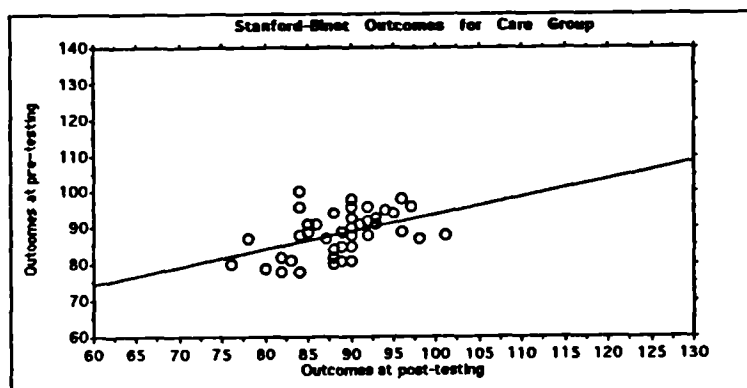
### 4.3.6 SB: Results - Main sample

The Stanford-Binet was applied on 140 children at pre-testing (96 children attending preschool and 44 at home receiving no preschool) and 135 children at post-testing (47 at educational centres, 44 at care centres, 44 at home). The results showed higher mean score differences for children in educational settings at pre-testing and post-testing when compared with children at care centres and children at home (Table 15, Figure 5). An analysis of variance between groups indicated a significant difference between groups at pre-testing ( $df=2$ ;  $F=122.0$   $p<.000$ ) and at post-testing ( $df=2$ ;  $F=179.4$ ;  $p<.000$ ). Further post hoc tests shown in the analysis helped to narrow down where the significant differences occurred between the groups (Table 16). This analysis showed the educational group with significantly higher scores when compared with the care group and the home sample at pre-testing ( $df=2$ ;  $F\text{-test}=3.31$ ;  $p<.05$ ) and at post-testing ( $df=2$ ;  $F=3.01$ ;  $p<.05$ ). The post hoc test results, Fisher PLSD, where *P* stands for *protected*, may be interpreted as showing significant difference only if the *F* test (ANOVA) is significant (Feldman, Hofman, Gagnon & Simpson, 1987; Minium, King, & Bear, 1993; Wonnacott & Wonnacott, 1990).

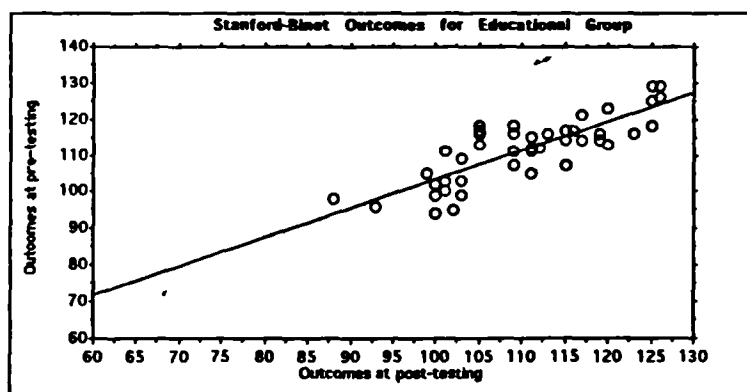
**Figure 4: Scatterplots: Stanford-Binet Outcomes**



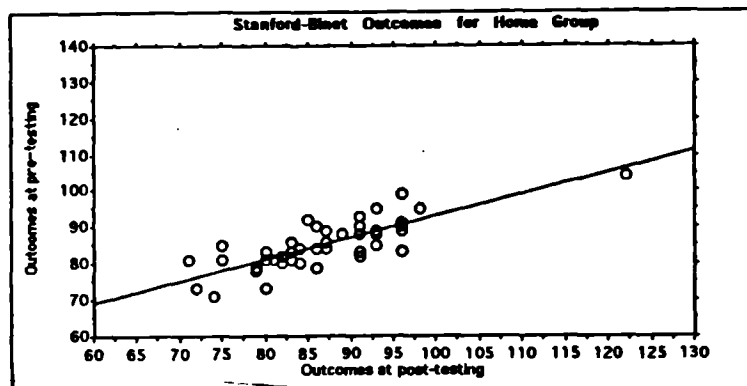
**$n=135$ ,  $df=134$ , slope=.95, st. error=.037,  $t\text{-value}=25.95$ ,  $p=.000$ ,  $R^2=.84$ ,  $R=.91$**



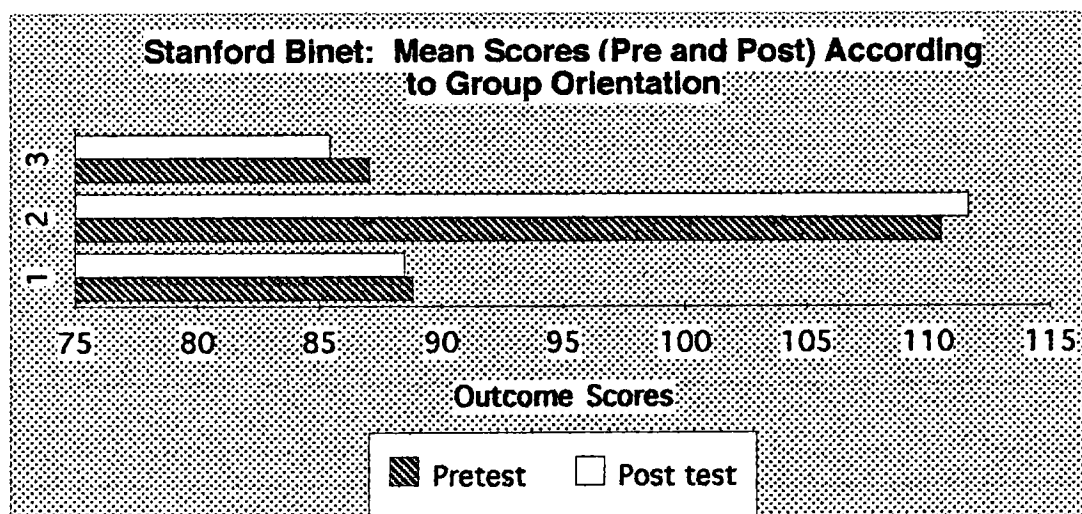
**$n=44$ ,  $df=43$ , slope (beta)=.49, st. error=.15,  $t\text{-value}=3.2$ ,  $p=.003$ ,  $R^2=.19$ ,  $R=.44$**



**$n=47$ ,  $df=46$ , slope(beta)=.79, st.error=.08,  $t\text{-value}=9.57$ ,  $p=.000$ ,  $R^2=.67$ ,  $R=.82$**



**$n=44$ ,  $df=43$ , slope=.59, st. error=.07,  $t\text{-value}=8.47$ ,  $p=.000$ ,  $R^2=.63$ ,  $R=.79$**



1) Care 2) Educational 3) Home

Table 15.

**Stanford-Binet outcomes:  
Mean scores and standard deviations  
according to group orientation  
(care, educational and home)**

	<u>Pre-test</u> (N=140)		<u>Post test</u> (N=135)	
	<u>mean</u>	<u>sd</u>	<u>mean</u>	<u>sd</u>
<b><u>CARE</u></b> <b><u>centres</u></b> (n=48 Pre) (n=44 Post)	88.84	6.44	88.5	5.88
<b><u>EDUCATIONAL</u></b> <b><u>centres</u></b> (n=48 Pre) (n=47 Post)	110.52*	9.08	111.66*	8.74
<b><u>HOME</u></b> <b><u>(control)</u></b> (n=44 Pre) (n=44 Post)	87.07	8.9	85.48	6.7
Note, separate analysis of variance at pre-testing and post-testing showed significant differences between groups: pre-testing (df=2; F=122.0; p<.000) and post-testing (df=2; F=179.4 p<.000). **post hoc analysis showed significantly higher scores for educ group at pre-testing (df=2; F=3.31; p<.05) and post-testing (df=2; F=3.01; p<.05).				

Table 16.

**Analysis of variance: Stanford-Binet at post-testing  
(N=135)**

Source:	DF:	Sum Squares:	Mean Squares:	F - test:
Between groups	2	188848.403	9424.201	179.443
Within groups	132	6932.53	52.519	p=.000.
Total	134	25780.933		

Comparison	Mean Diff:	Fisher PLSD:	Scheffe F-test:	Dunnett t:
Group 1 vs 2	-23.16	3.007*	116.044*	15.234
Group 1 vs 3	3.023	3.057	1.914	1.956
Group 2 vs 3	26.182	3.007*	148.312*	17.223

\* significant at 95%  
 Groups: Group 1= Care; Group 2=Educational; Group 3= Home (Control)  
 Note: post hoc tests are explained further in Minium et al. (1993) *Statistical Reasoning in Psychology and Education*; and in Feldman et al. (1987) *StatView II: Statview SE + Graphics*.  
 Abacus Concepts. CA.

The additional two post hoc tests, the Scheffe's test and the Dunnett's t-test, are given to serve as a more specific answer (statistically more conservative with regard to Type I errors) to the question of whether the three groups are significantly different. Further description and discussion of these tests are mentioned in Minium et al. (1993), Feldman et al. (1990) and Wonnacott et al. (1990).

At this stage, one cannot say that the differences found between groups were a consequence of their differing preschool experiences because it has not been established to what extent these three groups vary. In order to estimate the effects of preschool experience to children's outcome measures (IQ), it is necessary to take into account several social and family factors (background variables, Table 2) in the total sample.

#### 4.3.6.1 Stanford-Binet: Multiple regression analysis

The following background variables: age of child, months in treatment, mother's age, mother's education, and father's occupation were entered into the multiple regression model as continuous variables. The variable, gender (child's), was treated, categorically. For the variable, types of preschool treatment, dummy variables were created: 1=care; 2= educational and 0=home, and they were entered as independent, explanatory variables. The pre-test scores were included as a covariate, in a sense, assigning it the same status as the other explanatory variables. The attempt was to 'equalise' or eliminate most of the relevant initial differences between the groups, which, in turn, would offer a causal interpretation to the observed change at post- testing - an unbiased estimate of the treatment effect (Plewis, 1985).

Table 17:

**Multiple regression of Stanford-Binet scores with  
pre-test scores covaried**

Variables in the equation:	Beta	Error of B	t	p
Age of child (in months)	.1	.10	.97	.33
Sex	-2.30	.90	2.27	.02
Months in treatment (schools)	-.03	.11	.11	.91
Mother's age	.1	.72	.09	.93
Mother's education (in years)	.07	.14	1.06	.29
Father's occupation	-.16	.25	.66	.52
Care orientated	1.51	1.25	1.21	.23
Educationally orientated	9.63	1.72	5.60	.000
Intercept=20.55	R=.94	R-squared=.89	F-test=106.78	p=.000
SB Pre-test Scores (covaried)			12.38	.000

The results of the analysis will be discussed by explaining each individual variable as it occurs in the regression model.



#### 4.3.6.1.1 Stanford-Binet: Variable effects considered

##### 1) Preschool Orientation as an independent variable:

At post-testing, the results indicated a positive and significant relation between the educationally orientated preschool group and higher IQ scores ( $p < .000$ ) when compared with no preschool provision (home). The care orientated preschools, also showed positive indications of contributing to higher outcome measures when compared with no preschool provision, but the findings were not significant ( $p < .23$ ).

##### 2) Sex as an explanatory variable:

The negative coefficient shown for the sex variable reflects the higher mean scores for the boys at post-testing (Table 18) which was opposite to the findings recorded at pre-testing where girls received the higher mean scores. This observation also runs contrary to previous research findings indicating higher scores for girl's performance when compared with boys (Abu-Alam, 1989; Kagitcibasi, Sunar & Bekman, 1988; Davie, Hutt, Vincent & Mason, 1984; Tizard & Hughes, 1984). Its significance ( $p < .02$ ) indicates that the boys performed better.

##### 3) Months in treatment as an explanatory variable:

There were no significant findings attributed to months in treatment although the mean scores (Table 2) indicated that the children in the educational centres were in attendance less when compared with children at the care-orientated preschools, at pre-testing ( $M = 4.5$  months for Care;  $M = 3.8$  months for Educational; Table 2). This, in part, would attempt to explain the negative coefficient found for the variable, months in treatment, when related to the higher outcome measures for the educational group.

##### 4) Father occupation as an explanatory variable:

Previous studies have indicated that father occupation (either as a single explanatory variable or combined as part of a social index variable) has contributed to higher outcome measures on intelligence tests (Bruner, 1980; Howes & Olenik, 1986; McKey et al., 1985; Osborn & Milbank, 1987; Rutter,

1983; Tizard & Hughes, 1984; Zigler & Hall, 1988). For the total sample, father occupation (N=140) was shown to be 'normally' distributed ( $M=3.58$ ,  $sd=1.82$ ) with a high concentration of fathers employed in the service and labour occupations for the total sample (over 66%). There was no significant effects of father occupation on outcomes.

5) Mother age and education as explanatory variables:

Mothers at home were slightly older ( $p<.10$ ) and less educated ( $p<.005$ ) than mothers who sent their children to preschools (Table 2). A comparison between preschools showed that mothers were slightly younger and less educated at the care centres when compared with the mothers at the educational preschools (no significant differences). Their variable effects did not seem to significantly contribute to the outcomes scores in this analysis.

6) Age as an explanatory variable:

These results indicate that age was not a significant contributor to outcome measures, although there were reported significant mean differences in age between groups at study entry (Table 2).

Having shown that most of the explanatory variables did not appear to contribute to the child's performance at preschool, a reduced, more concise model which considers only those variables showing some contribution are shown in Table 18 below.

Table 18.

**Concise Multiple regression analysis showing contributing variable effects on outcomes (SB)**

Variables in the equation:	Beta	Error of B	t	p
Sex	-2.31	.84	2.75	.007
Care orientated	1.97	1.03	1.91	.06
Educationally orientated	10.21	1.59	6.42	.000
Pre-test scores (covaried)	.68	.05	12.94	.000

The reduced conditional model showed that the children at educational preschools performed significantly better than those children at care orientated centres and home and they improved significantly over time. This is the pre/post-test analysis. By carefully controlling for entry, and accounting for a number of background variables, the concise model provides evidence of differentiation between preschool groups in terms of increased test scores attributable to attendance at the different types of preschool settings.

Notably, the care orientated treatment value (beta) increased with the reduced model, indicating a stronger relation with outcome measures, although not significant ( $p < .06$ ). The variable, sex, also showed an increased effect indicating that boys were significantly affected more by the preschool treatment when compared with girls ( $p < .007$ ).

#### 4.3.6.2 SB: Interactive effects between preschool and other intervening variables

Occasionally, factors are found to interact so that the effects on the dependent variable (SB outcomes) of two factors combined are significantly greater, or smaller, than the sum of their independent effects obtained in the main effects analysis (previously shown). What this means is that the actual test scores of children in a particular combination of social or family circumstances differ in some way from the predicted scores found in the main effects analysis. No significant interactions occurred in the analysis of variance. Further investigation, however, was conducted on the variable, sex, to see if its interaction with preschool treatment (care and educational) was having a combined effect. The results for the additional created variables; (a) Sex x Care, and (b) Sex x Educ, showed no significant relation, when combined, on outcome scores (a:  $t = .30$ ,  $p < .77$ ; b:  $t = .78$ ,  $p < .44$ ). In a similar manner, the pre-test scores were combined with each group treatment, creating two additional variables: Pre x Care and Pre x Educational. A regression analysis followed, which showed a non-interactive relationship with outcome measures (Pre x Care:  $t = .83$ ,  $p < .41$ ; Pre x Educ:  $t = 1.54$ ,  $p < .13$ ).

#### 4.3.6.3 Within groups analysis: Differences between preschools within an orientation

Initially we looked at the differences between groups by an analysis of variance with the focus on the main effects. A further investigation followed which considered the individual differences between each preschool within the two preschool settings: care and educationally orientated. The question probed here, was to see if the preschools within each group were acting similarly on the outcome measures. Were some preschools accounting for higher scores? lower scores? As has been explained there were four preschools in each group. To investigate school effects within each orientation a regression model was fitted with the individual preschools (and the pre-test scores covaried) in a given orientation. The results showed that all preschools (those within care-orientation group; and those within the educationally-orientated group) acted similarly with no significant differences between them (care: c2:  $t=.44$ ,  $p<.66$ ; c3:  $t=.98$ ,  $p<.33$ ; c4:  $t=1.24$ ,  $p<0.22$ ; and educational: e2:  $t=.93$ ,  $p<.36$ ; e3:  $t=.65$ ,  $p<.52$ ; e4:  $t=.07$ ,  $p<.94$ -- where c2, c3, c4 / e2, e3, e4 represent individual schools).

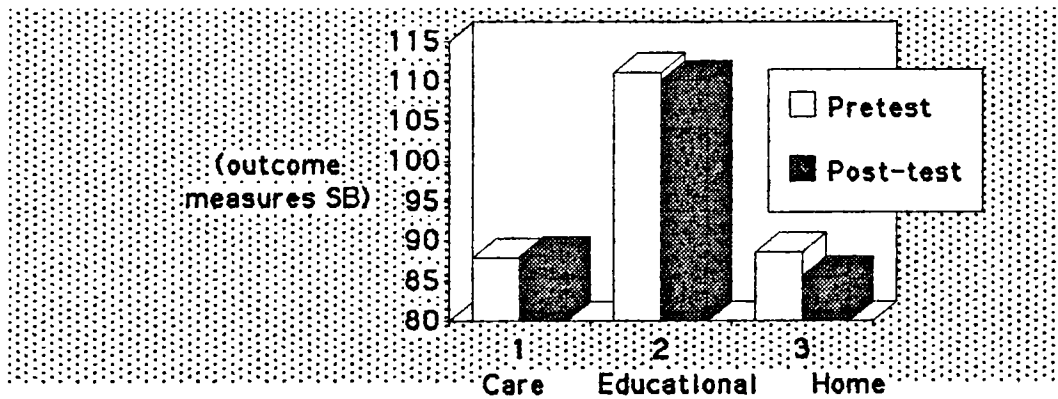
#### 4.3.6.4 SB: Analysis of outcomes by gender

Previous research suggests that sex differences are related to outcome scores on the Stanford-Binet Intelligence Scale (Abu-Alam, 1986; Davie, Hutt, Vincent, Mason, 1984; Kagitcibasi et al., 1988; Lazar et al., 1982; McKey et al., 1985; Tizard & Hughes, 1984). Further investigation was made to study the differences and effects, if any, of gender on the outcome scores (pre- and post-testing). In Table 19 (illustrated in Figure 6) the mean scores and standard deviations are shown by group orientation and gender.

**Figure 6:**

**Mean Scores for Stanford-Binet Outcomes by**  
**Gender and Orientation**

**Mean Scores for Stanford Binet at Pre/Post Testing,  
According to Group Orientation (Girls)**



**Mean Scores for Stanford Binet at Pre/Post Testing,  
According to Group Orientation (Boys)**

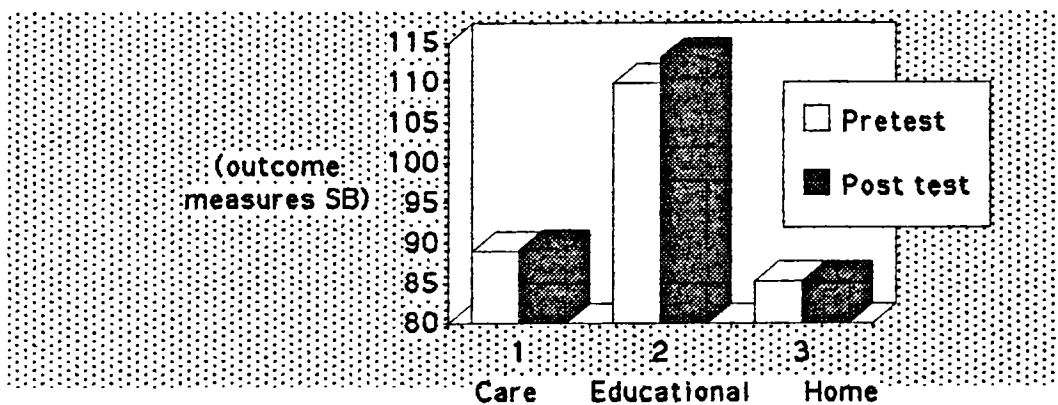


Table 19.

Mean scores and standard deviations for Stanford-Binet outcomes by group orientation and gender

Stanford Binet Scores				
	Pre-test (140)		Post test (135)	
	<u>x</u>	<u>sd</u>	<u>x</u>	<u>sd</u>
<b>Care</b>				
girls (pre:29, post:27)	87.86	7.38	88.07	5.96
boys (pre:19, post:17)	89	4.8	89.2	5.87
	t=.59, p<.56		t=.60, p<.55	
<b>Educational</b>				
girls (pre:24, post:23)	111.17	8.61	110.17	8.81
boys (pre:24, post:24)	109.86	9.68	113.08	8.62
	t=.49, p<.63		t=1.14, p<.26	
<b>Home</b>				
girls (pre: 24, post:24)	88.58	10.0	85.63	7.16
boys (pre: 20, post:20)	85.25	7.18	85.3	6.28
	t=1.25, p<.22		t=.56, p<.88	
<b>Totals</b>				
girls	95.35	13.7	94.15	14.72
boys	95.76	13.56	97.31	13.06
	F-test = .03, p<.86		F-test=1.75, p<.19	
Note. An analysis of variance between groups at pre-testing showed, F-test=.03; p<.86; and at post-testing, F-test=1.75; p<.19, indicating no significant differences between groups regarding gender. Less error variance is noted in the regression design (Table 18) which gave a p<.007 for sex with boys affected more than girls.				

Boys did account for a significant change of scores (improvement) from pre-testing to post-testing, as previously shown in the regression analysis and when compared with girls, were affected more by the treatment. The non-significant findings recorded in Table 19 reflect the greater amount of error variance when comparing groups differences by using a student's t-test than when gender is considered in a regression model.

While the results indicated significant preschool effects on outcome measures for the educationally orientated group, they did not describe which particular items of the scale were responsible for the differences reported. In order to investigate this concern, an item analysis, determining the differences in frequency of responses between the three groups (care, educational and home) was conducted for comparison (chi-square test for independent samples).

#### 4.3.6.5 SB: An item analysis: Differences between groups on frequency of correct and incorrect responses to items

At pre-testing, there was a total of 28 items, across four age groups: (3-6 years; 4 years; 4-6 years; 5 years.) whereas at post-testing, there was a total of 35 items across five age groups: (3-6 years.; 4 years.; 4-6 years; 5 years; and 6 years). Those task items where frequency counts were not available (measured) or were only available in one group category, were omitted from the analyses, e.g. at 3 years, the home group had a single child complete the six tasks; and at the seven year level, there were partial scores recorded for the educational group. The findings, reported in Table 20 show the results at pre-testing and at post-testing.

Table 20:

**Item analysis: Stanford-Binet**  
**Frequency responses between three groups**  
 (correct and incorrect responses)

Items	Pre-testing	Post Testing
	Chi square	Chi square
<u>3-6 years:</u>		
1. Comparison of balls	6.64*	3.19
2. Patience: Pictures	5.61	.09
3. Discrimination: Animal pict.	.02	2.41
4. Response to pictures: Level 1 <u>a</u>	7.98*	5.45
5. Sorting buttons	2.71	4.21
6. Comprehension 1 <u>a</u>	2.7	2.13
7. (A) Comparison of sticks	8.7*	3.7
<u>4 years:</u>		
8. (1) Picture vocabulary <u>a</u>	36.58**	20.59**
9. (2) Naming objects from memory†	4.1	5.94*
10. (3) Opposite analogies <sup>a</sup>	33.88**	17.67**
11. (4) Pictorial identification <u>a</u>	11.44*	5.07
12. (5) Discrimination of forms	20.2**	7.09*
13. (6) Comprehension II <u>a</u>	17.91**	24.82**
14. (7) Memory for sentence I <u>a</u>	4.34	9.19
<u>4-6 years:</u>		
15. (1) Aesthetic comparison	.07	13.48*
16. (2) Opposite analogies I <u>a</u>	6.52*	17.91**
17. (3) Pictorial sim & diff I	1.89	14.37**
18. (4) Materials <u>a</u>	3.43	22.45**
19. (5) Three commissions	1.48	3.31
20. (6) Comprehension III <u>a</u>	1.89	7.81*
21. (7) Pictorial identification <u>a</u>	14.27**	11.62*
<u>5 years:</u>		
22. (1) Picture completion man	7.19*	.75
23. (2) Paper folding: Triangle	3.55	5.85
24. (3) Definitions <u>a</u>	11.4*	38.5**
25. (4) Copying a square	2.39	1.46
26. (5) Pictorial sim & diff II	7.99*	73.5**
27. (6) Patience: Rectangles	2.96	29.18**
28. (A) Tying a knot	.48	1.12
<u>6 years:</u>		
29. (1) Vocabulary <u>a</u>		.42
30. (2) Differences <u>a</u>		6.81*
31. (3) Mutilated pictures <u>a</u>		8.45*
32. (4) Number concepts		6.04*
33. (5) Opposite analogies II <u>a</u>		14.58**
34. (6) Maze-tracing		11.29*
35. (A) Response to pictures: Level II <u>a</u>		1.0
Note. This item analysis was to show which items (verbal or nonverbal) accounted for differences between frequency counts of correct and incorrect responses on the overall sample. It was not to assess which group was responsible for different frequency responses on each item i.e. chi-square cannot 'locate' which group is responsible for significance. df=2; two tailed *p<.05, **p<.001 <u>a</u> . items that required verbal response		



The type and the degree of difficulty on the task items in the Stanford-Binet Intelligence Test, vary with age level. For example, the items at 3 1/2 years contain more manipulative tasks (sorting, discriminating size and shapes and matching exercises) than the tasks at the immediate subsequent age levels. Generally, the language and comprehension tasks tend to increase in number as the age level increases (by half-year increments until 5 years and one-year increments thereafter). Another useful consideration to bear in mind with this analysis is the fact that the differences in frequencies stem from those tasks administered from the basal to the ceiling age of the child.<sup>3</sup> Recorded significant levels, therefore, are representative of the differences on task frequencies between groups, and not individual outcomes.

The results indicate an overall concentration of significant differences associated with task items in and around the 4-year and 4-6 year levels. The number of tasks at the 4-6 year level are primarily verbal tasks which measure language/comprehension abilities. Correct and incorrect frequency responses increased for all six items over the testing period, indicating a wider variation between group responses. This age sector is also representative of the mean age for all three groups in the sample. Interestingly, tasks requiring the kind of activities demanded in everyday life situations, mainly manipulative tasks (Terman & Merrill, 1961) such as carrying out a series of commands (Item 19) or tying a knot (Item 28), did not show a difference between groups. Similarly, Item 22 requires the child to complete a picture of a man, thus showing a measurement of intellectual maturity. According to its authors, it (Picture Completion Man) tends to be a very reliable indicator for discriminating a child's ability to observe details. This item also showed no significant difference between the groups.

In general, it appears that children attending the different preschool groups differed less on tasks that required manipulation (performance) and perception than on tasks that required verbal (language) responses. This difference in task performance may be interpreted in many ways, most of which are not straight forward and do pose serious questions regarding the types of questions asked (Hughes & Donaldson, 1979) and the manner in which they are asked (Hughes & Grieve, 1980; Wood & Wood, 1983). To illustrate, the language item, Definitions

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Footnote 3. Basal age refers to the age approximately six months before the chronological age of the child and where the child would be successful at passing the tasks; the ceiling age refers to the age at which the tasks become too difficult for the child to successfully complete.

(#24) purports that the purpose of this task is not to determine whether the child knows the meaning of a word, but to see whether he can define it by expressing a usage, give a description of the object, or give the materials of which it is made. The difficulty, particularly for children staying at home, is that they *do* actually define things in their immediate environments by their meaning and purpose (within context of the word's use) and not by its inherent physical and material properties. Consequently, children at home may be less adept at disembedding on tasks that require a verbal response which, in turn, results in lower scores.

While chi square analysis may show significant differences between groups on frequency responses for task items and indicate which types of items significantly vary, it does not specify which group is responsible for the difference. The results from this analysis suggest that there are greater differences on tasks that measure language and communication skills when compared with tasks that require manipulation skills.

#### **4.3.7 Summary of findings: Stanford-Binet analysis**

To summarise the main findings, the outcome scores on the Stanford-Binet Intelligence Test by group orientation indicated positive and significant effects for the educational treatment on the IQ outcome scores.(Tables 17, 18 & 19). The outcome measures significantly improved over time for the educational group ( $t=6.42$ ,  $p<.000$ ) whereas the care group made some gains, although not significant ,i.e. actual mean scores decreased for the care and home groups. When a conditional model was carried out to analyse the possible effects of the explanatory background variables, the results indicated a positive and significant effect of sex on the outcome scores, accounted for by the significant improvement in scores for the boys. Analysis showed there were no interactive effects when additional interactive variables were created and entered into the regression analysis. Additionally, an investigation to study the frequencies recorded for task items at pre- and post-testing was performed. The results indicated that significant differences concentrated around three age sectors: 4 year, 4-6 years; and 6 years. Particular emphasis on language items was noted across both testing periods with greater differences between groups found on language/communication tasks.

#### **4.4 The Wechsler Preschool and Primary Scale of Intelligence (WPPSI)**

The *Wechsler Preschool and Primary Scale of Intelligence* is an extension of the *Wechsler Intelligence Scale for Children (WISC)* and is used in testing overall intelligence in 4-6 1/2 year-old children. There are eleven tests in the total scale-- six are *verbal* tests and five are *performance* tests. The battery of subtests when combined may be considered as a measure of overall intellectual capacity (Wechsler, 1963, 1974).

Only two subtests were used in this research: the Arithmetic and the Block Design subtests. The rationale for their selection and use rests mainly on two important conditions. The first, as explained earlier, is due to their previous use in other Arab-speaking countries in the region (Kuwait, Jordan, Egypt, Turkey, Lebanon). The Arithmetic and the Block Design subtests have shown to be reliable and valid instruments for assessing perceptual and mathematical ability in Arab preschool children (Abu Alam, 1989). They are culturally adaptive and familiar instruments to the region. Secondly, the selection of these two subtests compliment the different other assessments chosen. Whereas Stanford-Binet focussed on IQ, sensory motor and language abilities, these subtests have assessed mathematical abilities and tasks. In view of the all assessments administered, these subtests constitute an important part of the 'profile' of measurements on child development.

##### **4.4.1 Background on the WPPSI (with reliability)**

David Frank, in *The Wechsler Enterprise* (1983), gives an interesting and informative history of what he calls the heuristic value of the tests developed by Wechsler. According to Frank, the psychometric roots for Wechsler's work in the testing of intelligence can be found in the early work of Binet (1904, cited in Frank, 1983) and his critiques (Cattell, 1937; Krugman, 1939; Terman, 1919; cited in Frank, 1983). Early tests of intelligence suffered a host of psychometric problems. They tended to be weighted inappropriately with verbal and non-verbal tasks; there were an uneven number of tests at different age levels; the mental age factor meant something different from person to person; and some tests relied too heavily on scholastic experience. As a consequence, comprehensive tests assessing intellectual ability by both verbal and non-verbal tasks were developed.

Essentially, when Wechsler set out the task of developing a test of intelligence, his aim was not to produce a set of brand new tests, but to select from whatever source was available. To a large extent, Wechsler virtually borrowed the scale of tests from the *Army Alpha and Beta Tests* (Yoakum & Yerkes, 1920 cited in Wechsler, 1974) and tasks in the *Alexander Scale* (Alexander, 1935 cited in Wechsler, 1974). Over the years, his later scales (Wechsler Adult Intelligence Scale, WAIS; Wechsler Intelligence Scale for Children, WISC; and Wechsler Preschool and Primary Scale of Intelligence, WPPSI) were constructed, in form and content, on the model of the first one.

WPPSI is based on the belief that the intelligence of the 4-to-6 year old child is not restricted to any specific modalities (Wechsler, 1963). The mental abilities of the preschool child are continuous and not disparate, which means that they can be tested with a metric of 'moreness' or 'lessness', rather than that of mere presence or absence (1963). WPPSI retains the *Intelligence Quotient* (IQ) as the most effective measure of expressing a child's mental endowment - a test score equal to the mean score of the average child of a given age.

The WPPSI IQs are computed by converting the raw test scores into scaled scores. The sum of these scaled scores are then converted into deviation IQs, i.e. the mean IQ and standard deviation are effectively 100 and 15, at each age. The tests assembled for the WPPSI are the same or extensions of those employed in the WISC. Of the eleven tests which make up the WPPSI, eight are tests from the WISC Scale.

#### **4.4.2 Reliability and validity: WPPSI**

The WPPSI was standardised in the US on a large representative sample (1200) in the mid 1960's. Reliability tests (test-retest; split/half for internal consistency measure of scale) showed it to be applicable and reliable (coefficients ranged from .77 to .96; Wechsler, 1963). To validate the scale, WPPSI was correlated with three other intelligence tests (Stanford -Binet Intelligence Scale (Form L/M); the Peabody Picture Vocabulary Test; and the Pictorial Test of Intelligence. WPPSI IQ correlated higher with the Stanford-Binet test, then with the other two scales.

#### 4.4.3 Background on WPPSI applied in Arab cultures

WPPSI has been translated into many different languages and standardised on several populations in the Arab world. In Kuwait, a team of researchers from Kuwait University validated the WPPSI for cultural acceptability on a large sample of 2200 children. Similarly, in Turkey, Egypt, Lebanon and Saudi Arabia, WPPSI has been applied effectively as a measurement of intelligence for young children (Kagiticbasi et al., 1988; Abu-Alam, 1989; Nashif, 1985; Faraj, 1986).

#### 4.4.4 WPPSI applied in Bahrain

This instrument was selected to assess characteristics of cognitive development, such as classification, seriation, and discrimination of size/quantity. Like the Stanford-Binet, it was chosen because of its familiarity in the region and its reliable application cross-culturally, particularly in Arab-speaking countries. The assumption was that the professional and political officials (to whom this study will be addressed), would be more receptive to a study which used instruments that had 'proved' to be reliable in the past.

Two subtests were taken from the WPPSI and used for this study--the *Arithmetic* subtest and the *Block Design* subtest. The Arithmetic subtest falls into the verbal test category and the Block Design into the performance category. When treated separately, each subtest may be considered as measuring a different ability (Wechsler, 1963). Both subtests were translated and back-translated from English to Arabic (classical) using the back-translation procedures (Brislin et al., 1973). A test re-test reliability over a two week time interval on 24 children (12 from each orientation) showed a correlation coefficient of .98 ( $p < .000$ ; Pearson product moment).

The Arithmetic Subtest comprises 20 items designed to measure basic quantitative concepts. The first four items ask for size and quantity, followed by four items measuring counting ability from 1-9. The last eleven items, given in increasing order of difficulty, are verbal arithmetical questions, requiring simple addition and subtraction. Each item is timed in this subtest.

The Block Design Subtest immediately followed the administering of the Arithmetic Subtest for the pilot testing and the pre- and post-testing. This test consists of 14 red and white blocks and pictures depicting abstract designs. The child is required to assemble each design, using the blocks within a given time span. Patterns are arranged in order of increasing difficulty. The Block Design involves the ability to perceive and analyse forms. It combines visual

organisation with the reproductive aspects of visual-motor co-ordination. It requires spatial visualisation and abstract conceptualisation. When administering this subtest consideration was given not to give the child cues. Research suggests that scores have been raised significantly by administering cues during the test (Sattler, 1969).

#### **4.4.5 WPPSI: Pilot study**

##### **4.4.5.1 Pilot study sample**

Twenty-three students from the selected preschool centres (N=8), twelve children from care orientated preschools and eleven children from educationally orientated preschools, comprised the pilot testing sample (see Appendix A, Pilot Study Sample, for further details on sample size and selection). All children were matched for background (described in Table 2 and variables from Family Background Questionnaire) and all preschools were matched accordingly (previously described in Chapter 2, section 2.1.4, Design and Sample).

##### **4.4.5.2 Pilot study results**

Results on the Arithmetic Subtest, using a comparison of outcomes by a t-test analysis, showed a significant difference between the care and educational groups ( $df=21$ ;  $t=-4.77$ ;  $p<.000$ ; two tailed). Similarly, the results on the Block Design Subtest, showed a significant difference between the two groups ( $df=21$ ;  $t=-2.1$ ;  $p<.04$ ; two tailed). Additionally, the outcome measures from the Block Design subtest were compared by gender between boys and girls in care and educational settings. The girls in educational settings had higher scores than girls in care-orientated settings ( $df=11$ ;  $t=-2.2$ ;  $p<.05$ ). No significant difference was noted for boys in the different types of settings ( $df=8$ ;  $t=.77$ ; two tailed).

To note, the Block Design Subtest appeared to be a difficult test for children ( $n=23$ ) in the pilot sample. More than 60% of the children passed less than four items on the subtest.

#### **4.4.6 WPPSI: Results - Main sample**

All the children in the pre-testing and post-testing samples (N=140; N=135, respectively) were administered the Arithmetic subtest and the Block Design subtest from the Wechsler Preschool and Primary Scale of Intelligence (WPPSI).

#### 4.4.6.1 Methods of analysis: Main sample

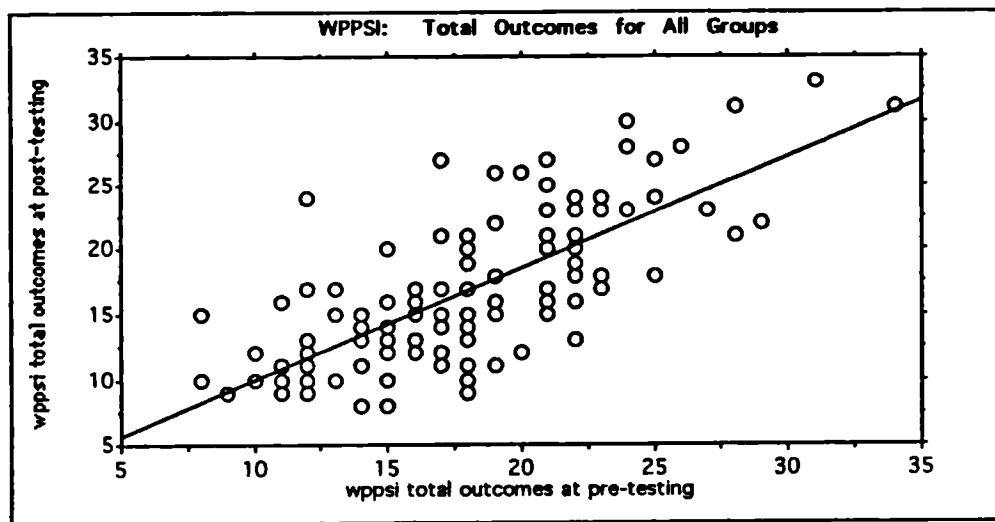
For both sets of outcome measures (pre-testing and post-testing) frequency distributions for each subtest were graphed according to totals and each group orientation. Distributions for total outcomes (N=140; N=135) and by preschool group (care, educational and home) showed symmetrical distributions throughout, with the exception of two slightly skewed distributions (positive) at pre-testing noted for Block Design scores in the Care group and the Arithmetic scores in the educationally orientated group. When total outcome scores were combined across group orientations, the particular asymmetry was not found. Symmetrical distributions were found for the total outcome scores in the three groups. Figure 7A and 7B illustrates (scatterplots) the correlations between pre-test and post-test outcomes for total scores and within each group orientation, indicating significant linear relationships between pre- and post-test outcomes.

Parametric statistical procedures were used for analysis, following the procedure used previously in the analysis of results for the Stanford-Binet, i.e. a conditional model which considers explanatory variables in addition to the pre-test scores as a means for measuring relative change and explaining causal effects. An analysis of variance was followed by a multiple regression analysis which investigated possible causal effects of several background variables. Independent factors that were shown to be significantly related to outcomes were further explored for any possible interactive effects (regression procedure). A further examination investigated the differences in outcomes between the four preschools in each orientation - a 'within groups' analysis.

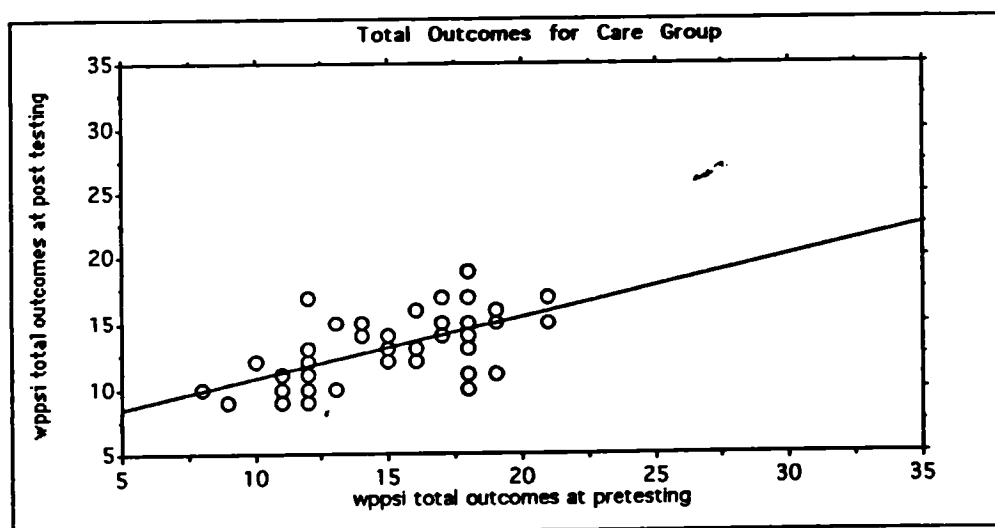
#### 4.4.7 **WPPSI results: Main sample Arithmetic & Block Design**

Table 21 shows the mean scores, standard deviations and differences of means at pre-testing and post-testing scores for both WPPSI subtests: the Arithmetic subtest and the Block Design subtest. The mean score differences between testing periods did not reflect differences attributed to the different preschool provisions. The scores indicated the direction (increase/decrease) of scores over the time of treatment which is shown in the mean difference values.

The findings from Table 21 indicate an improvement for the educational group on the Arithmetic Subtest outcome scores. The scores for the care and home groups declined over time, illustrated in Figure 8. The Block Design results showed a positively related increase in scores for the educational group and negatively

**Figure 7A:****WPPSI: Total Outcomes (Arithmetic & Block Design)**

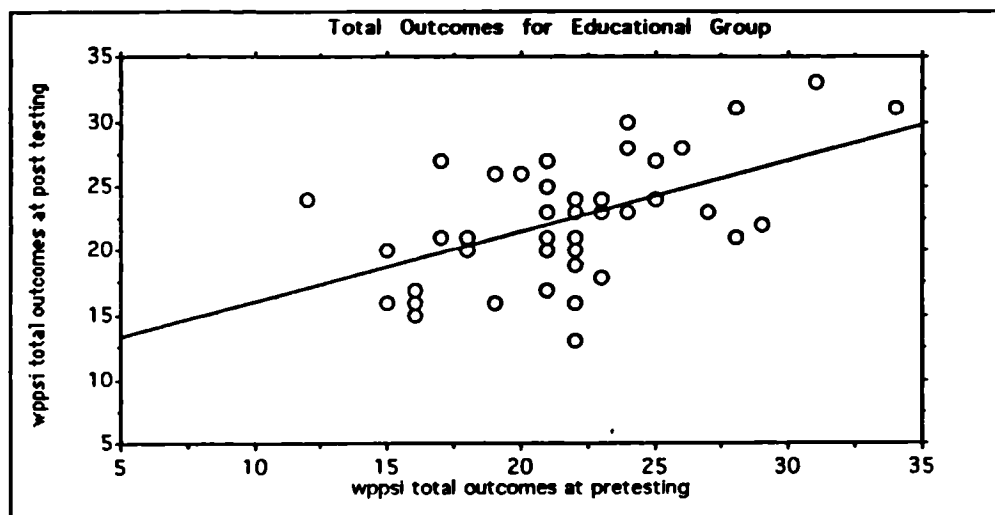
$N=135$ ;  $R=.737$ ; slope=.863; st. err=.07; t-value=12.6;  $p=.000$ ;  $R^2=.543$



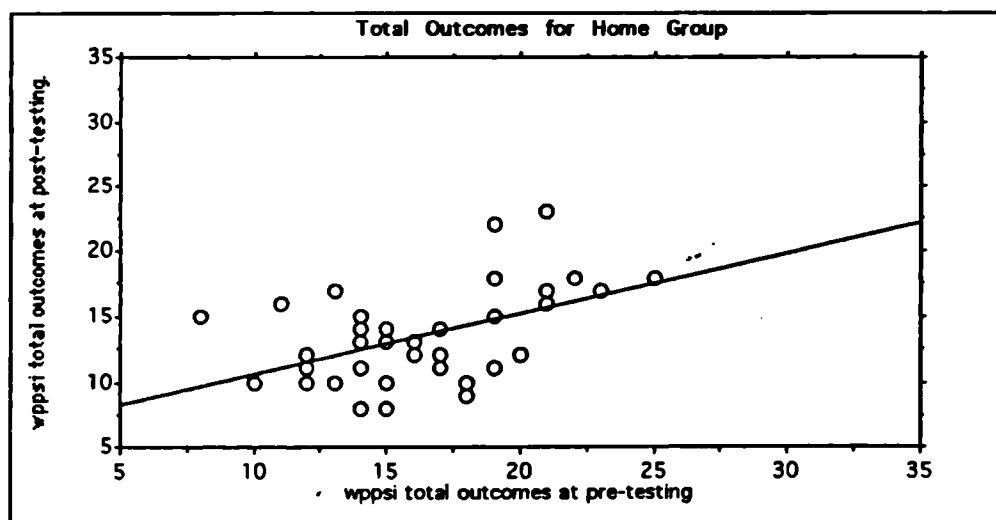
$n=44$ ;  $df=43$ ;  $R=.59$ ; slope=.467; st. err=.097; t-value=4.8;  $p=.000$ ;  $R^2=.35$



**Figure 7B: WPPSI: Total Outcomes (Arithmetic & Block Design)  
(continued)**



$n=47$ ;  $df=46$ ;  $R=.52$ ; slope=.55; st. err=.13;  $t\text{-value}=4.11$ ;  $p=.000$ ;  $R^2=.27$



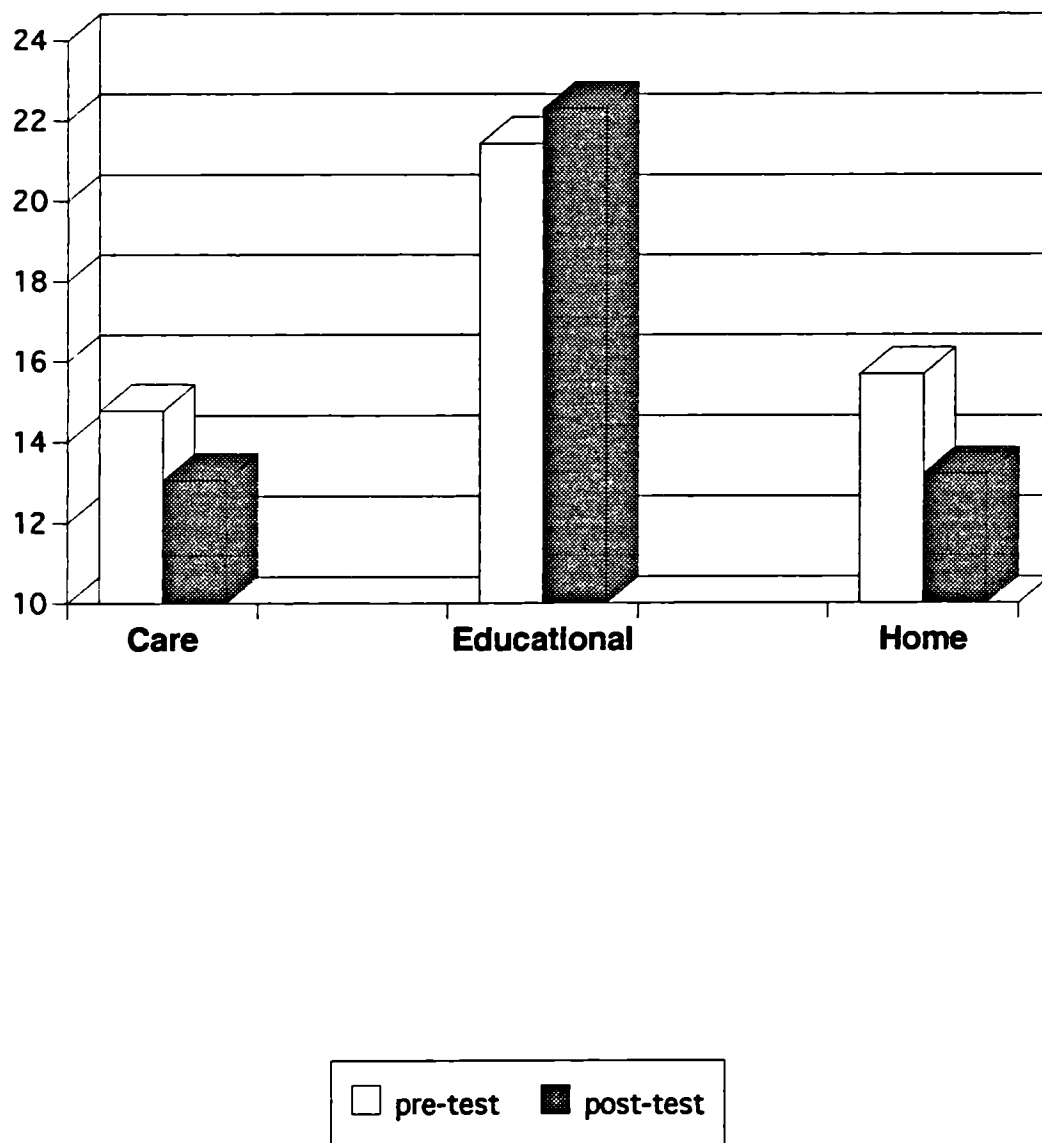
$n=44$ ;  $df=43$ ; slope=.467; st. err=.121;  $t\text{-value}=3.9$ ;  $p=.000$ ;  $R^2=.26$

**Table 21: Mean Scores, Standard Deviations and Mean Score Differences on WPPSI Outcome Scores (Arithmetic and Block Design Subtests) According to Group Orientation**

WPPSI															
ARITHMETIC SUBTEST					BLOCK DESIGN SUBTEST					TOTALS: SUBTESTS COMBINED					
	pretest		post test			pretest		post test			pretest		post test		
	x	sd	x	sd	mean diff	x	sd	x	sd	mean diff	x	sd	x	sd	mean diff
CARE (n=48 pre) (n=44 post)	7.91	1.63	7.66	1.45	-.25	6.88	2.58	5.39	2.09	-1.49	14.77	3.31	13.05	2.6	-1.73
EDUC (n=48 pre) (n=47 post)	10.62	2.72	11.47	2.48	.85	10.79	2.67	10.83	2.71	.04	21.43	4.45	22.3	4.65	.87
HOME (n=44 pre) (n=44 post)	8.59	2.44	7.23	2.04	-1.36	7.11	2.29	5.98	2.14	-1.13	15.68	3.74	13.21	3.41	-2.47
Combined Total (C, E, H) (N=140 pre) (N=135 post)	9.07	2.58	8.84	2.8	-0.23	8.32	3.11	7.48	3.39	-0.84	17.39	4.87	16.32	5.71	-1.0

**Figure 8:**

**WPPSI Total Outcome Scores: Arithmetic &  
Block Design subtests (pre- and post-test)**



related outcomes for the care and home groups. The post-testing measures alone, would indicate that the children at care preschools and at home did worst on their responses to the WPPSI subtests, but actual raw scores changed very little from pre-testing. These raw scores translated into scaled scores take into account the increase of age, which resulted in the negative outcomes. These differences, by means account only, do not explain the differing effects of preschool experiences. Further analysis using a multiple regression model that includes the explanatory variables, is required.

#### 4.4.7.1 WPPSI: Analysis of variance (differences between group means)

Previous results from an analysis of variance at pre-testing showed significant differences between groups for both subtests, mainly accounted for by the higher outcome scores demonstrated in the educational group (Arithmetic subtest:  $df=2$ ;  $F=20.5$ ,  $p<.001$ ; Block Design subtest:  $df=2$ ,  $F=35.3$ ;  $p<.001$ ).

Similarly, at post-testing, the analysis of variance indicated a significant difference between groups on both subtests, owing to children's higher performance scores at the educational centres (Arithmetic:  $df=2$ ,  $F=59.9$ ,  $p<.000$ ; Block Design:  $F=74.9$ ,  $p<.000$ ). The post hoc tests used to account for this difference clearly indicated significant findings for the educational group (Group 2) when compared with the care group (Group 1) and the home group (Group 3) for both subtests on the WPPSI (below, Table 22).

Table 22:

#### **Analysis of variance tables: WPPSI: Arithmetic and Block Design subtests (at post-testing)**

##### **Arithmetic Subtest**

<u>Source</u>	<u>DF</u>	<u>Sum Squares</u>	<u>Mean Squares</u>	<u>F-test</u>
Bet. Groups	2	500.418	250.209	59.91
Within Groups	132	551.316	4.177	$p=.000$
<b>Total</b>	<b>134</b>			
<u>Comparison</u>	<u>Mean Diff</u>	<u>Fisher PLSD</u>	<u>Scheffe F-test</u>	<u>Dunnett t</u>
Group 1 vs 2	-3.809	.848*	39.471*	8.885
Group 1 vs 3	.432	.862	.491	.991
Group 2 vs 3	4.241	.848*	48.927*	9.892

### Block Design Subtest

Source	DF	Sum Squares	Mean Squares	F-test
Bet. Groups	2	819.612	409.806	74.918
Within Groups	132	722.047	5.47	p=.000
Total	134	1541.659		

Comparison	Mean Diff	Fisher PLSD	Scheffe F-test	Dunnett t
Group 1 vs 2	-5.443	.971*	61.551*	11.095
Group 1 vs 3	-.591	.986	.702	1.185
Group 2 vs 3	4.853	.971*	48.913*	9.891

Sign at 95%  
Group 1-Care; Group 2-Educ; Group 3-Home

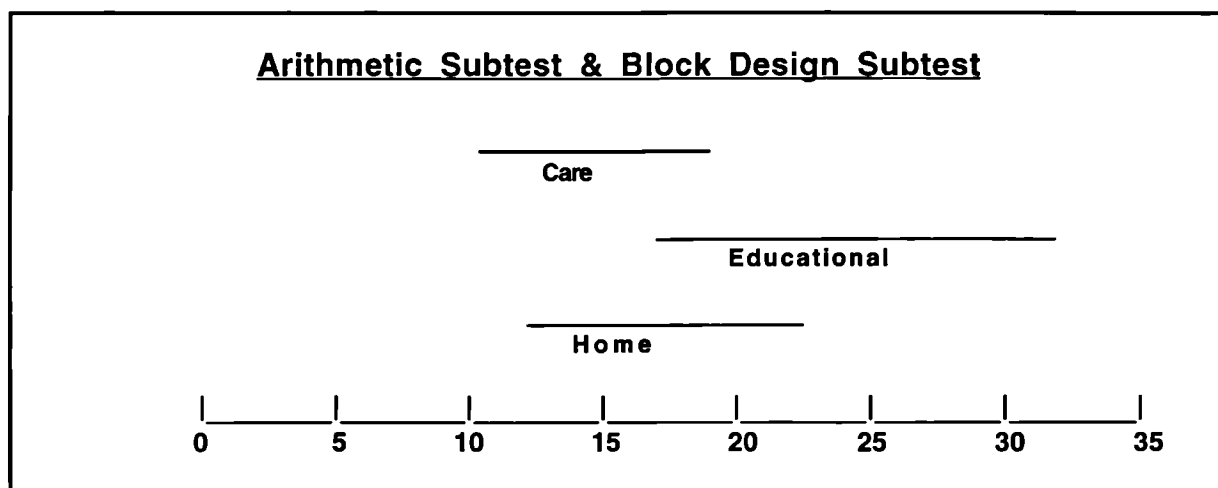
One interesting note here, before proceeding to the question of whether there were contributing background effects on outcomes (regression analysis), is the particular range of scores between groups for the two combined subtest scores. Figure 9 illustrates the three different ranges of outcome scores. The difference between scores (highest to lowest score) in each group for both the WPPSI subtests was considerable (21.64 for Educational; 6.74 for Care; and 11.61 for Home).

Figure 9:

**Range of scores:**

**WPPSI: Arithmetic and  
Block Design subtest**

(by group orientation)



The same background variables entered into the conditional model for Stanford-Binet analyses were fitted into a regression model (Table 17). They are: age (of

child), sex, months in treatment, mother's age, mother's education, father's occupation, and the preschool provision variables (care and educational). The pre-test scores for both subtests were entered as a covariant and subjected to the same status as the above independent explanatory variables. Stated briefly again, the effort was to equalise most of the relevant initial differences between the groups, thereby offering a causal interpretation to the observed change at post-testing.

Because the independent variables act differently upon each subtest (Arithmetic and Block Design) the results will be discussed separately.

#### **4.4.8 WPPSI: Results regression analysis: Arithmetic subtest**

The regression model, fitted with the explanatory variables (Table 23), explained over 60% of the total variance ( $R^2$ ) on the analysis for the Arithmetic subtest. Most of the explained variance was due to the educational programme treatment (27%) and the pre-test measure (13%).

Both preschool provisions, care and educational, had positive and significant relations with the outcome measures when compared with no preschool provision (home). Each of the other explanatory variables and their possible effects are discussed separately.

##### **4.4.8.1 Variable effects considered: Arithmetic subtest**

###### **1) Age as an explanatory variable:**

The negative coefficient found for age reflects the relatively higher mean scores at post-testing for the educational group when compared with outcomes for the care and home groups over time. As children get older there appears to be a decline in scores for the arithmetic tasks, while scores tend to increase as children get older for the Block Design tasks. Whereas the youngest children at home scored higher at pre-testing when compared with children at care settings, their scores decreased more than the scores in the care group, over time. Age accounted for only .7% of the variance.

###### **2) Sex as an explanatory variable:**

Sex did not make any contribution to the variance and appears to have no causal relation with outcome scores.

Table 23: Multiple Regression Model: Arithmetic and Block Design Subtests

<u>Arithmetic Subtest</u>					<u>Block Design Subtest</u>				
	Beta	Standard Error of B	t	p		Beta	Standard Error of B	t	p
<u>Variables in the Equation</u>									
Age of Child (In months)	-.04	.04	1.15	.27		.08	.04	1.81	.07
Sex	.11	.19	.33	.74		-.57	.37	1.54	.13
<u>Months in Treatment (Preschools only)</u>									
	-.03	.04	.79	.43		.04	.05	.93	.36
Mother's Age	.04	.25	.15	.88		.28	.30	.95	.34
<u>Mother's Education (in years)</u>									
	.08	.05	1.73	.09		.02	.06	.27	.79
Father's Occupation*	-.03	.09	.37	.71		.18	.10	1.76	.80
Care	.91	.46	1.98	.05		-.90	.53	1.70	.09
Educational	3.30	.43	7.64	.0001		3.26	.56	5.84	.0001
WPPSI: Arith: Pretest	.44	.07	6.40	.0001		.40	.07	5.53	.0001
Intercept: 4.953	R=.79	R-Squared =.63	F-test=23.54	p=.0001		Intercept: -2.26	R=.81	R2=.65	F-test=18.77 p=.0001

\*df=1

3) Months in 'treatment' as an explanatory variable:

At study entry, children in educational centres had been attending the centre for a shorter period of time, on average than children at care centres (educational group: 3.8 months; care group: 4.5 months). The negative coefficient reported in the analysis ( $\beta = -.03$ ) represents a relationship of higher scores with less treatment time for children in the educational group when compared with the children in the care group.

4) Father occupation as an explanatory variable:

Father occupation was entered as an independent ordinal variable in the regression model. It was negatively related to the outcome measures and accounted for only 3% of the total variance. As explained earlier, for the entire sample, over 66% of all fathers were either labourers or service workers, with 9% working in managerial positions. In both preschool centres, fathers employed as labourers and service workers, accounted for the children with higher scores on the Arithmetic subtest.

5) Mother's age and education as explanatory variables:

Mother's age and education were both positively related to outcomes, with mother age accounting for .3% of the total variance and mother's education accounting for 11% ( $p < .09$ ).

4.4.8.2 Possible interactive effects: Arithmetic subtest

Sometimes, it occurs that factors interact so that the effects on the dependent variable of two variables combined are significantly greater or smaller than the sum of their independent effects in the main effects analysis. There were no significant interactions occurring in the analysis of variance, even when a further investigation was conducted on the mother's education in combination with the preschool treatment (mother's education x care treatment:  $t = .20$ ,  $p < .84$ ; and mother's education x educational treatment:  $t = 1.54$ ,  $p < .12$ ).

None of the explanatory background variables contributed significantly to the child's performance at preschool. A more appropriate concise model is considered which takes into account those factors which did contribute to performance (outcomes).



Table 24:

**Concise regression model: Arithmetic subtest**  
 (showing contributing variable effects  
 on outcome measures )

Variables in the equation	Beta	Error of B	t	p
Care	.74	.38	1.97	.05
Educational	3.32	.39	8.47	.000
Arithmetic pre-test (covaried)	.45	.07	6.90	.000
df=3	Intercept: 3.33 R=.78 R2=.62 F=69.87 p=.0001			

The reduced, more concise, model results indicate that the children attending preschool, both care and educationally orientated, perform significantly better on arithmetic abilities than those children at home. They also made significant improvement over the interval of time between pre-testing and post-testing when taking into account the varying initial differences between groups. Having carefully controlled at entry and accounted for a number of background variables, the above model provides evidence of differentiation between the preschool groups in terms of test scores attributed to attendance at the different types of preschool facilities.

Normally, the analysis to follow would be to investigate each preschool's behaviour by a within groups analysis in order to see if all were acting similarly. Rather, the findings for the analysis on the other subtest, the Block Design, will be discussed, followed by a within groups analysis based on the total scores from both subtests (Arithmetic and Block Design).

#### 4.4.9 Block Design subtest

The regression model fitted with the explanatory variables accounted for over 67% of the total variance, with preschool provision (care and educational) responsible for 47% of the variance and the pre-test scores responsible for 9% of the variance. As expected, the pre-test scores proved to be positively related to the outcome measure, while the educationally orientated treatment showed a significant contribution to performance ( $t=5.84$ ,  $p<.0001$ ).

##### 4.4.9.1 Variable effects considered: Block Design subtest

Each of the independent factors and their relation to outcomes will be discussed.

##### 1) Age as an explanatory variable:

Age showed a positive relation to children's performance on measures of analytical and spatial ability (Block Design). This would suggest that as children got older their performance scores increased. Further investigation of possible interactive effects of age, when combined with type of provision, are considered in section 4.4.9.2.

##### 2) Sex as an explanatory variable:

The negative beta coefficient for sex ( $\beta=-.57$ ) indicates that boys accounted for the higher outcomes at post testing. Further analysis will show that it was the boys, particularly at home and in the educational centres that may have accounted for the difference (Table 26).

##### 3) Months in 'treatment':

The positive coefficient for the time in treatment at pre-testing ( $\beta=.04$ ) indicates that the longer time in treatment (preschool provision) did not have a significant effect on outcome scores.

##### 4) Mother's age and education:

Both variables, mother's age and education, were not significantly related to outcome measures.

5) Father occupation:

Father occupation accounted for .001 percent of the total variance and was not significantly related to outcome scores. The positive coefficient mirrors the normal distribution of father occupations in the post-testing sample.

4.4.9.2 Block Design: Possible interactive effects:

Possible interactive effects were investigated for age ( $p < .07$ ) in combination with the types of preschool variables (care and educational). Two dummy interactive variables were created (Age x Care; Age x Educational) and both were entered into the regression model. This resulted in a reduced proportion of the variance explained (from 69% to 62%) and no significant interactive effects (Age x Care:  $t = 1.36$ ,  $p < .18$ ; Age x Educational:  $t = .98$ ,  $p < .33$ ).

All differing background variables (not including treatment and pre-test scores) investigated accounted for less than 10% of the total variance when combined and all were shown not to contribute to performance in a significant manner. A reduced model, considering those factors which show a contribution to outcome measures is shown below.

Table 25:

**Concise regression model: WPPSI Block Design**  
(showing contributing explanatory variable effects)

Variables in the equation	Beta	Error of B	t	p
Care	-.50	.45	1.11	.27
Educational	3.36	.52	6.52	.0001
Block Design: Pre scores (covaried)	.41	.07	5.63	.0001
df=3	Intercept=3.09 R=.79 R <sup>2</sup> =.62 F=72.13 p=.0001			

While there is some room for unaccounted variability in the results, the results are strong. Attendance at educationally orientated preschools was associated with significantly higher performance scores on abilities measuring analytical and spatial conceptualisation (Block Design Subtest), when compared with children at care centres and at home, i.e. receiving no preschool experience. Additionally, those children attending educationally orientated preschools improved significantly over

the nine/ten month time period when compared with children at care orientated preschools and home.

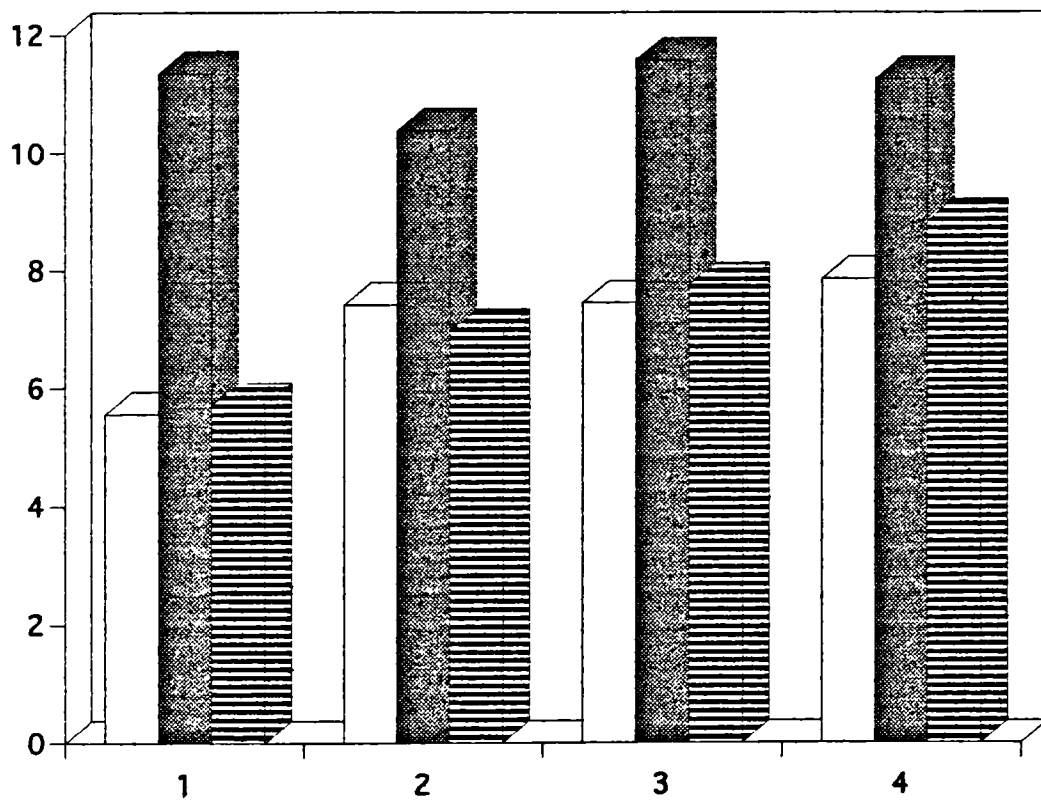
#### **4.4.10 Analysis and results of outcomes on Arithmetic and Block Design subtests: Differences by gender**

Previous research has suggested that sex differences are related to performance on cognitive outcome measures which test for IQ (Andersson, 1992; Dweck & Leggett, 1988; Kagitcibasi et al., 1988; Lamb et al., 1992; Schweinhart et al., 1993; Tizard, 1975; Zigler & Styfco, 1993).

By group orientation, the boys and girls at the educationally orientated preschools outscored their counterparts on both the Arithmetic and Block Design and made significant gains over time. Table 26 gives the mean scores on both WPPSI subtests (Arithmetic and Block Design) according to gender (also illustrated in Figure 10 and 11).

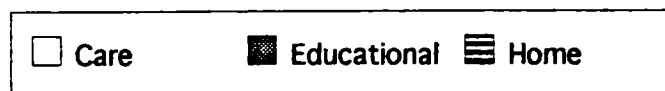
**Figure 10:**

**Mean scores (girls) for WPPSI Subtests: Pre- and post-testing**



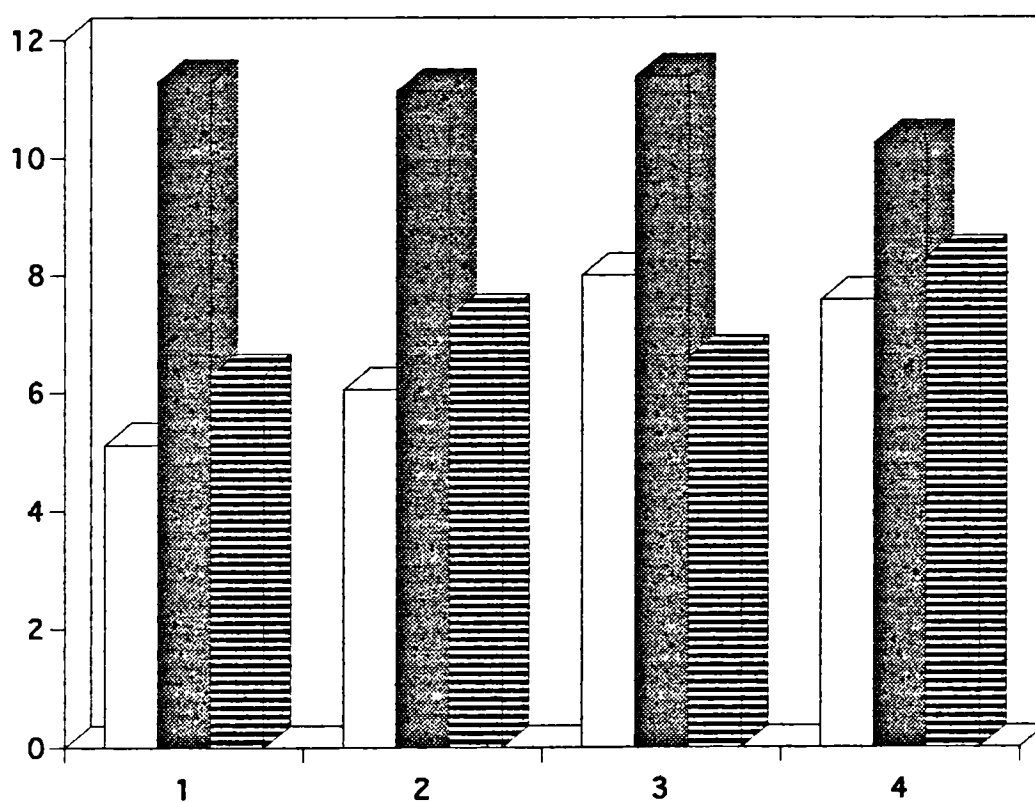
1: Block Design - post-test  
3: Arithmetic - post-test

2: Block Design - pre-test  
4: Arithmetic - pre-test



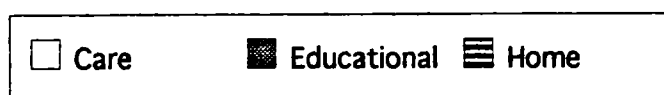
**Figure 11:**

**Mean scores (boys) for WPPSI Subtests: Pre- and post-testing**



1: Block Design - post-test  
3: Arithmetic - post-test

2: Block Design - pre-test  
4: Arithmetic - pre-test





#### **4.4.11 Within groups analysis: Differences between preschools in each orientation**

The final analysis considers how the individual preschools within an orientation (care or educational) were acting - were they all performing similarly? Was a particular preschool accounting for the higher/lower outcomes? As before in the analysis of the Stanford-Binet results, a conditional regression model was fitted with each preschool and the pre-test scores were covaried. Within the care orientation, all preschools reported similar effects on outcomes (c2:  $t=.35$ ,  $p<.72$ ; c3:  $t=1.03$ ,  $p<.30$ ; c4:  $t=1.02$ ,  $p<.32$ ). There were no significant findings for any of the four preschools in the care group. Likewise, the analysis of the four preschools within the educationally orientated group, also showed no significant effects on outcomes indicating that these preschools were acting similarly (e2:  $t=1.53$ ,  $p<.13$ ; e3:  $t=.38$ ,  $p<.70$ ; e4:  $t=.36$ ,  $p<.72$ ).

Note: In brief, a description of task items on the Arithmetic subtest: The first four items on the Arithmetic subtest deal with basic constructs: discrimination of size, length and number, presented in a pictorial fashion (all children completed these tasks successfully). A further five items on counting follow. The remaining eleven items on the subtest are addition and subtraction problems presented verbally to the child. Children (boys, particularly) at home had difficulty, as well as the girls at care preschools, with these last eleven items. This would make sense seeing that at care preschools emphasis was placed on rote counting (memorising) and not on verbal comprehension of arithmetic problems. Children at home were witnessed to have an understanding of number provided they had actual manipulation of the quantities on hand. When problems were presented without the aid of materials or apparatus, they had difficulty understanding. This was purely an empirical observation and was not tested for in this study. Although curriculum designs and development have not been discussed in this study, there seems to be a need to investigate further these features between the varying types of preschool environments.



## 4.5 Draw-A-Person Test (DAP)

The *Goodenough-Harris Drawing Test* is a screening instrument used for measuring the non-verbal cognitive ability of children. Both authors of the *Draw-A-Person (DAP)* test point out that it is a test primarily of conceptual and intellectual maturity (*Review of Children's Drawings As Measures of Intellectual Maturity*, Marjorie Honzik, 1966; *Children's Drawings As a Measure of Intellectual Maturity*, Harris, 1963). The Draw-A-Person test is based on the assumption that the intelligence of early school-age children can be estimated from their drawings of a man, a woman and of themselves.

### 4.5.1 DAP: Background on scale with reliability and validity

"The usefulness of a psychological measuring scale hinges on the consistency with which it measures whatever it measures (reliability) and on the demonstration that it does in fact assess the abilities for which its claims are made (validity)" (Harris, 1963, p.90).

For the Goodenough Draw-A-Man Test, the reliability of the scale was evaluated in two ways. First, an evaluation of the consistency with which scores measure a particular set of drawings (inter-rater agreement) was made and secondly, the consistency of the children's performance over time (test-retest) was conducted.

The inter-rater reliability of scores from a number of investigations, received correlation scores that ranged from the .80's to .96. (Harris, 1963). In an unpublished study, Harris (1963) measured several samples of drawings by eight-year-olds and ten-year-olds in the US. The results indicated a high level of agreement on correlations between scores (.90's). Several studies have documented test-retest correlations which have yielded correlation coefficients of .90 (on an abbreviated scale: Yepsen, 1929; and Brill, 1935 cited in Harris, 1963). Testing intervals ranged from two to six weeks. Longer intervals of time between test and re-testing yielded lower correlations - range between .60's - .70's.

The validity of the scale was measured in a number of ways. First, the scores from the drawings by an independent examiner were compared with the scores made by the classroom teacher. The correlations revealed no trend or pattern indicating a systematic effect attributable to the outside examiner or the familiar

classroom teacher. Secondly, Goodenough wanted to see the effect (if any) school art training had on test performance from the Draw-A-Man Scale. By comparing scores from children who received art training with a matched group of children without training, the results failed to show any consistent differences between the performance of the two groups in drawing the human figure (Goodenough, 1926). In another study, Phatah (1959 cited in Harris, 1963) examined the relationship between the criterion of artistic merit of children's drawings and their scores obtained by the Goodenough method. From approximately 2500 drawings made by 5-15 year olds, Phatah selected ninety-nine groups of 2 or 3, matched for age, sex and score on the Draw-A-Man Scale. Sixty raters, divided equally among Psychology students, Fine Art students and Art Education majors, were asked to rate the drawings. Over 80% of the judges agreed on the most artistic drawings of a set.

The Goodenough scale has been used as a qualitative aid in clinical diagnosis of specific disorders. Springer (cited in Harris, 1963) showed by item analysis using the Draw-A-Man and the *Haggerty-Olson-Wickman Scale* (a scale designed to differentiate between maladjusted and well adjusted boys) that fifteen out of fifty-one items correlated with meaningful high ratios on scores. Further studies show a number of characteristics noted by Goodenough as possible indicators of specific disorders (Goodenough, 1926).

In studies where the scores from the Goodenough Test were correlated with scores on other psychological tests, results showed considerable association. Findings support strong correlations with the intellectual maturity assessed by the Stanford-Binet (.72) and the WISC (.73). The mental age (MA) scores correlated higher than the IQ scores. (Harris, 1963). Further evidence appears to indicate that the Draw-A-Man Test is *not* more allied with performance than with verbal abilities (Terman et al., 1961).

In 1950, Goodenough and Harris, standardised a revised form of the Draw-A-Man Scale on a large sample (2975) of 5-15 year olds across the US. A team of scorers (graduate students) worked independently and achieved a 95% correlation agreement for items on the scoring principles of the scale. They found that means and variances decreased for the 13-15 age group which was consistent with previous findings indicating a slight tendency for girls to score higher than boys on the DAP scale, yet disappears as both groups reach the ceiling of the test (13 years). This difference was due to belief that girls take more care with details and are more docile than boys (Goodenough, 1929). Scoring

guides for man and woman drawings are in Appendix K of this study (Harris, 1963).

#### **4.5.2 DAP: Applied in Bahrain**

In this study it was decided to use the test as a cognitive measurement of intellectual maturity. The test was translated into Arabic and has been widely used in Egypt, Jordan and Lebanon. (Faraj, *Intelligence and Children's Drawings*. University of Cairo, Psychology Department, 1986).

Faraj (1986) validated this instrument in three ways: 1) by measuring change in performance with age (construct validity); 2) by measuring difference between contrasted groups, e.g. drew matched subgroups (one normal and one mentally retarded group). The test discriminated between the two groups using Draw-A-Man and Stanford-Binet; 3) by concurrent validity - correlation with Stanford-Binet was .61 ( $n=51$  for normal sample) and  $r=.52$  ( $n=51$ : for retarded sample;  $df=50$ ;  $p<.001$ ). There was also a change of IQ with increase of age for both groups. For reliability, a test re-test on the two samples, was used. The results were .73 and .79 for both age groups (4-4.6 years and 6-6.6 years). Additionally, a split-half reliability was made by dividing the criteria of correction into an odd and even order. The correlation between the two scores was .70 and after correction .84 (Pearson product moment correlation).

A translated and adapted version of the DAP was applied in Bahrain. It was checked for reliability by a test-retest procedure, using eight subjects (two children each from two care preschools and two educational preschools) which were different to those used on the pilot sample of 24 students. Spearman's rho correlation was applied and the results were significant at  $p=.05$  level (Spearman's  $\rho=0.75$ ;  $n=8$ ).

##### **4.5.2.1 DAP: Procedure and administration (Bahrain)**

This test may either be administered individually or as a group. For the home sample, each child was tested individually. At the preschool centres, three groups of two students were used for the pilot sample ( $n=24$ ) and an arrangement of three groups of four students were used for pre-testing ( $n=140$ ) and post-testing ( $n=135$ ) sessions. The children in the homes and at the preschools were instructed to make the best picture possible of a man, a woman, and themselves. They were also told to try to make the whole man, woman and self and not just the head and shoulders, as recommended from the instruction manual (Harris,

1963). The volunteers were specifically instructed not to coax or urge the children's drawings along. Questions enquiring about the description of lines, segments, features and details could be asked. In the homes, children seemed more reluctant to draw the three pictures than children at preschools. Most home children were not encouraged to use pencils or crayons in the home.

#### **4.5.3 DAP: Pilot study**

The Draw-A-Person test was pilot tested on a sample of 24 children selected from four preschool centres. Twelve children were selected from care orientated preschools and twelve students were selected from educationally orientated preschools. The list of children from each centre, including information about the child's background (matched individually; Table 2) and family status (Chapter 3, section 3.14) was made with the help of the directress of each centre. The ages of the children ranged from 3 years 10 months to 4 years 8 months. The mean ages were 4.1 years at educationally orientated preschools and 4.3 years at care orientated preschools. The mean ages for boys and girls was 4.3 years and 4.2 years, respectively. Most of the fathers were employed (95%) and worked as semi-skilled workers in clerical government jobs, government, social and agricultural projects and light industry. Most of the mothers were unemployed and were housewives (92%). Mothers who worked were employed as either clerical workers, nursery school teachers, or hospital aides (Chapter 3, Table 7).

##### **4.5.3.1 DAP: Pilot study results**

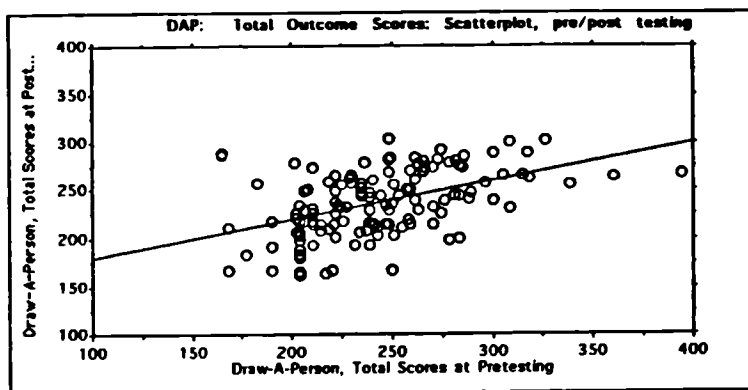
Results from the pilot testing indicated a significant difference on one drawing (*Drawing #2--A Woman*;  $df=22$ ,  $t=-2.4$ ;  $p<.03$ ); with a positive showing for the other two drawings (*Drawing #1*;  $df=22$ ;  $t=11.72$ ;  $p<.10$  and *Drawing #3*;  $df=22$ ,  $t=-1.9$ ,  $p<.06$ ).

#### **4.5.4 DAP: Results: Main sample**

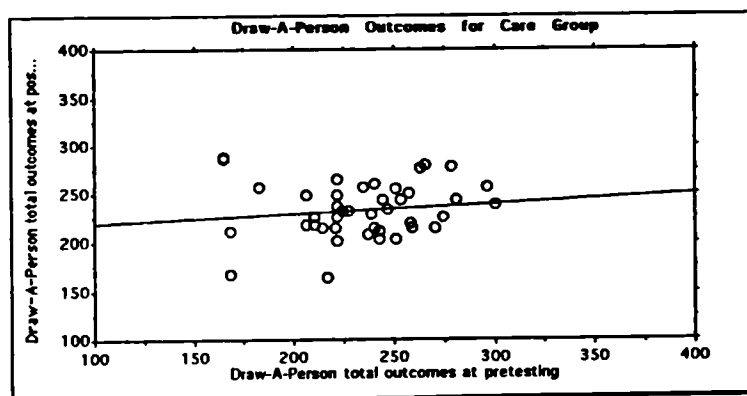
The Draw-A-Person Test was applied on an intact sample of 140 children at pre-testing and 135 children at post-testing: care orientated preschools - 48 at pre-testing, 44 at post-testing; educationally orientated preschools - 48 at pre-testing, 47 at post-testing; and home settings - 44 at pre-testing and post-testing. Children were previously matched on background characteristics (Table 2). The interval of time between pre- and post-testing was roughly a full academic school year, 8 1/2 - 9 month interval (Table 1).

At pre-testing, frequency distributions were graphed for the total outcome measures according to group orientation (care, educational and home) to describe distributions. Additionally, scatterplots were graphed to determine the relationship between pre- and post-test measures (Figure 12). As all groups demonstrated distributions within the normal range (symmetrical) and linear relationships with outcome measures, parametric statistical procedures were followed for analysis (an analysis of variance with focus on main effects; a multiple regression analysis with pre-test scores covaried, and a within groups analysis). The conditional model set up for analysis seeks to allow for the variable differences between groups with the aim of identifying treatment effect on outcomes--focus on main effects (Hinkle, Wiersma, Jurs, 1988; Plewis, 1985). Additionally an analysis within groups is shown in order to illustrate the comparison of differences between schools within each orientation (care and educational). This same procedure for analysis was used on the other psychometric tests (Stanford-Binet and WPPSI) assessing cognitive development. In the following table (Table 27) the mean scores, standard deviations and the mean differences between DAP scores at pre- and post-testing are shown by preschool group.

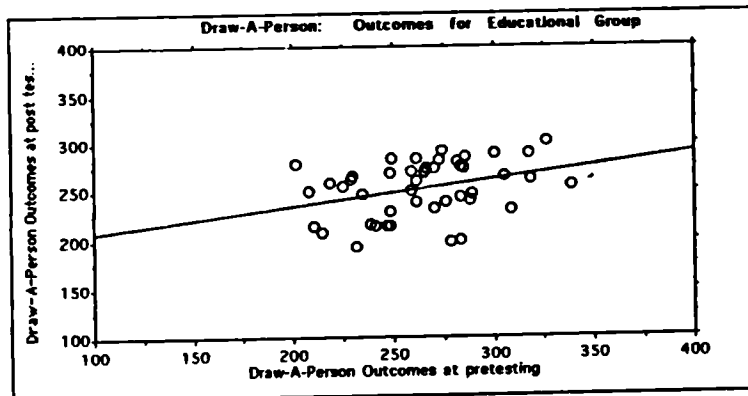
Figure 12: Scatterplots: Draw-A-Person Outcomes



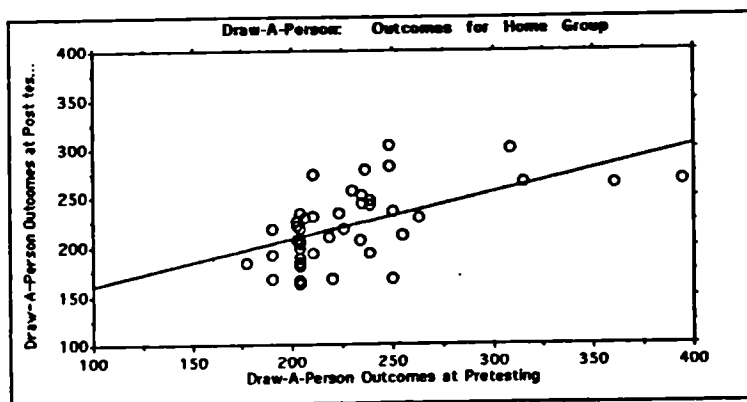
$N=135$ ;  $df=134$ ; slope=.399; st. err=.065; t-value=6.11;  $p=.000$ ;  $R=.47$



$n=44$ ;  $df=43$ ; slope=.105; st. err=.132; t-value=.79;  $p=.43$ ;  $R=.122$



$n=47$ ;  $df=46$ ; slope=.276; st. err=.123; t-value=2.25;  $p=.03$



$n=44$ ;  $df=43$ ;  $R=.557$ ; slope=.47; st. err=.109; t-value=4.35;  $p=.000$

**Table 27: Mean Scores, Standard Deviations and Mean Differences on Draw-A-Person Outcome Scores (DAP #1: A Man; DAP #2: A Woman; DAP #3: The Self) According to Group Orientation**

**DRAW-A-PERSON**

DAP Subtests	Care			Educational			Home			Total		
	x	sd	x	sd	x	sd	x	sd	x	sd	x	sd
<b><u>DAP #1</u></b>	78.6	11.9	77.9	10.2	-71	88.7	12.2	85.6	10.2	-3.09	78.4	15.9
											75.3	14.0
											14.0	-3.09
<b><u>DAP #2</u></b>	77.9	11.1	77.4	9.0	-55	86.6	10.4	83.1	8.6	-3.55	75.4	14.1
											73.3	12.6
											12.6	-2.11
<b><u>DAP #3</u></b>	76.9	11.3	77.8	9.8	.86	88.5	11.8	84.4	11.1	-4.04	75.4	14.9
											73.9	12.5
											12.5	-1.52
<b>Totals (#1,#2,#3)</b>	233.6	32.6	233.2	28.1	-.37	264	31.1	253.2	27.8	-10.9	229.2	43.4
											222.2	36.8
											36.8	-6.96
											249.7	39.3
											236.6	33.5
											33.5	-6.17

md= the mean difference between pre and post scores. This measure does not indicate significance but rather is an indication of an increase/decrease in scores from pre- to post-testing.

At a glance, it would appear from Table 27 (Figure 13) that the children in the educationally orientated group had higher scores on all three drawings at both testing periods. The mean score differences indicated that outcomes for all three groups tended to decrease over the interval of time between testing periods. The only exception was the positive post-outcome scores on the DAP #3, recorded for the care group.

In view of further investigation and results, it is important at this stage to mention the cultural context under which this test was conducted as it may have influenced the findings. In both preschool settings, several teachers strongly discouraged children from drawing pictures of the human figure for religious reasons. It is believed and practiced in some preschools, particularly by teachers belonging to certain strict sects of Islam, that drawing the human figure is religiously inappropriate. At the time of pre-testing, teachers openly discussed these opinions about human figure drawings and several children were made aware of these attitudes. Consequently, at post-testing, the children may have shied away from making their 'best' possible pictures. Actually, the researcher (and other examiners) noticed that the children's willingness to draw had waned considerably between pre- and post-testing. For the children at home, it would be difficult (and presumptuous) to suggest a similar explanation for the findings, seeing that home environments do not, as such, offer structured curriculum activities such as drawing human figures, similar to preschool environments (further mention in Chapter 6, Time-Sampling observations).

#### **4.5.5 DAP: Analysis of variance for main sample**

When the mean scores were compared by an analysis of variance (Table 28), the results indicated a significant difference between groups. Further post hoc analysis tests showed the significance was attributed to the educational group on the three drawings (a man, a woman, the self) at post testing.



Figure 13:

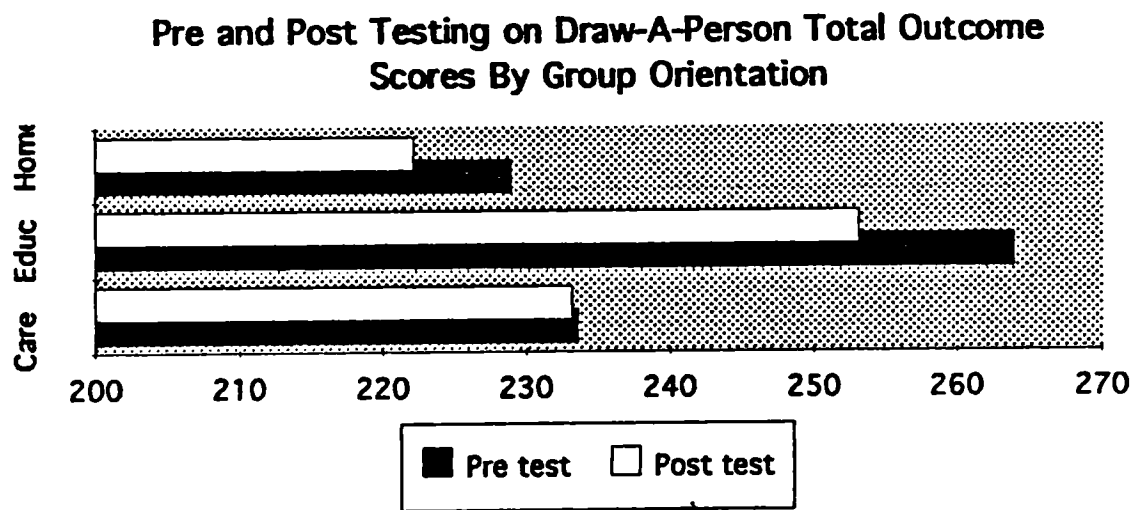


Table 28:

**Draw-A-Person outcomes:  
Analysis of variance tables (at post-testing)**

<b><u>DAP #1</u></b>				
Source	DF	Sum Squares	Mean Squares	F-test
Between groups	2	2653.446	1326.723	9.892
Within groups	132	17703.487	134.117	p=.000
Total	134	20356.933		
Comparison	Mean Diff	Fisher PLSD	Scheffe F-test	Dunnett t
1 vs 2	-7.684	4.806*	5.002*	3.163
1 vs 3	2.682	4.885	.59	1.086
2 vs 3	10.366	4.806*	9.103*	4.267
<b><u>DAP #2</u></b>				
Source	DF	Sum Squares	Mean Squares	F- test
Between groups	2	2224.496	1112.248	10.652
Within groups	132	13783.029	104.417	p=.000
Total	134	16007.526		
Comparison	Mean Diff	Fisher PLSD	Scheffe F-test	Dunnett t
1 vs 2	-5.719	4.241*	3.559*	2.668
1 vs 3	4.114	4.31	1.783	1.888
2 vs 3	9.832	4.241*	10.52*	4.587
<b><u>DAP #3</u></b>				
Source	DF	Sum Squares	Mean Squares	F-test:
Between groups	2	2580.785	1290.393	10.303
Within groups	132	16532.296	125.245	p=.000
Total	134	19113.081		
Comparison	Mean Diff	Fisher PLSD	Scheffe F-test	Dunnett t:
1 vs 2	-6.586	4.644*	3.935*	2.805
1 vs 3	3.932	4.72	1.358	1.648
2 vs 3	10.518	4.644*	10.036*	4.48 .
<b><u>DAP- TOTAL</u></b>				
Source	DF	Sum Squares	Mean Squares	F-test:
Between groups	2	22508.17	11254.085	11.625
Within groups	132	127784.911	968.068	p=.000
Total	134	150293.081		.
Comparison	Mean Diff	Fisher PLSD	Scheffe F-test	Dunnett t:
1 vs 2	-19.988	12.912*	4.69*	3.063
1 vs 3	10.955	13.123	1.364	1.651
2 vs 3	30.943	12.912*	11.238*	4.741
*significance @ 95%				
Note. Post hoc analysis tests are reviewed and explained in Feldman et al. (1990).				

The analysis of variance between groups (care, educational and home) indicated that the three groups varied significantly in all four outcome areas i.e. DAP #1, DAP #2, DAP #3, and DAP-Totals. The post hoc analysis (post hoc tests described in SB analysis) comparing groups showed significant findings for the educational group (Group 2) when compared with the care group (Group 1), and home (Group 3).

These results do not yet show causal effects of preschool provision on DAP performance. A consideration of the several explanatory variables used in the previous analyses will be considered before the fully controlled regression analyses are presented.

#### **4.5.6 Multiple regression analysis considering explanatory variables**

Further investigation was conducted in order to show the effects, if any, from the following background variables: age of child, sex of child; months in treatment; mother's age; mother's education; father's occupation and the types of preschool treatment. These variables were entered into a multiple regression model with the pre-test scores covaried.

Table 29:

**Multiple regression analysis: Variable effects  
on DAP outcome measures**

Variables (14X)	DAP#1	DAP#2	DAP#3	Totals
<u>Age</u>				
beta coeff.	-.36	.01	-.01	-.36
error of B	.22	.19	.21	.58
t-value	1.63	.05	.06	.62
<u>Sex</u>				
beta coeff.	-2.59	-3.37	-4.09	-10.47
error of B	1.98	1.71	1.87	5.18
t-value	1.31	1.97*	2.19*	2.02*
<u>Months in treatment</u>				
beta coeff.	-.35	-.38	-.44	-1.13
error of B	.25	.22	.24	.67
t-value	1.37	1.73	1.84	1.69
<u>Mother's age</u>				
beta coeff.	1.25	-.39	-.08	.63
error of B	1.61	1.38	1.54	4.23
t-value	.78	.28	.05	.15
<u>Mother's education</u>				
beta coeff.	.09	-.007	-.12	-.08
error of B	.30	.26	.29	.79
t-value	.30	.03	.43	.11
<u>Father's occupation a</u>				
beta coeff.	-.03	.2	-.12	.11
error of B	.55	.48	.52	1.45
t-value	.05	.68	.22	.08
<u>Care treatment</u>				
beta coeff.	6.20	5.26	6.01	17.49
error of B	2.80	2.44	2.66	7.35
t-value	2.22*	2.15*	2.26*	2.38*
<u>Educational treatment</u>				
beta coeff.	8.91	7.76	8.0	23.93
error of B	2.73	2.41	2.66	7.30
t-value	3.27**	3.23**	3.01**	3.28**
Intercept	71.18	51.44	54.45	171.33
R	.51	.54	.54	.56
R-Squared	.26	.29	.29	.31
F-test	4.96***	5.80***	5.78***	6.35***
<u>Pre-test scores (Covariates)</u>				
beta	.27	.31	.32	.33
error of B	.08	.07	.08	.07
t-value	3.64***	4.25***	4.23***	4.46***
<p>* p&lt;.05; **p&lt;.00; ***p&lt;.000</p> <p>a. Two occupation groups were not represented due to insufficient numbers in sample: Class VIII: professional, technical &amp; related workers; and Class III: Agriculture, Animal Husbandry. The father occupation variable was entered as an ordinal variable.</p>				

#### 4.5.6.1 Explaining variable effects

The results of the analysis will be discussed by explaining each individual variable as it occurred in the regression model.

##### 1) Preschool provision as an independent variable:

Both preschool treatments, care and educational, for the full regression model, showed positive and significantly related effects on the outcome scores (when compared with children receiving no preschool provision) for all three Draw-A-Person Tests.

##### 2) Age as an explanatory variable:

The overall negative coefficient for age accounts for the *relative change* (Plewis, 1985) between younger children at educational centres with higher outcome scores (when compared to home group) and older children at care settings with lower scores (Table 2). It suggests that as children got older their scores decreased which in some respects may be explained by extraneous variables not considered in this study, i.e. religious factors and practices in the homes and preschools.

##### 3) Sex as an explanatory variable:

Sex variable to be negatively and significantly related to outcomes on this *full* (Hinkle et al., 1988) multiple regression model, indicating that boys had higher scores than girls (drawings of a woman [#2] and the self [#3] and total outcome measures).

##### 4) Months in treatment as an explanatory variable:

This factor did not have any variable effects on drawing outcomes and only accounted for .2% of the variance.

##### 5) Mother's age and education as explanatory variables:

From the full regression analysis, mother's age and education were not significantly associated with outcome measures, although mothers in the educationally group had significantly more years of schooling than mothers in the care group and at home. Both factors, mother's age and mother education accounted for 2% of the variance.

6) Father occupation as an explanatory variable:

The father occupation variable accounted for 1% of the total variance on total DAP outcome scores. There was no significant relationship indicated for this variable.

7) Pre-test scores (covaried):

The pre-test scores were found to be the strongest predictor of performance on the Draw-A-Person outcomes, accounting for 22% of the total variance on total scores for the combined three drawings.

From the full multiple regression analysis, it would appear that the treatment groups (care and educationally orientated) were having a significant effect on all three drawings in the Draw-A-Person test. Sex, as an explanatory variable, showed that gender had a significant effect on outcome scores between groups with boys affected more than girls. This multiple regression model, sometimes referred to as the full model, initially considers all predictor variables, and then individual predictor variables are deleted if they do not make a significant contribution to the regression. The following procedure then becomes a concise regression model (Hinkle, Wiersma & Jurs, 1988).

The reduced, more concise models below consider only those variables that were shown to contribute to the child's performance on the drawing tests, i.e. preschool treatments, sex, and pre-test scores (covaried). Each drawing was given an equation.

Table 30:

**Concise multiple regression analysis: DAP outcomes**  
(showing contributing explanatory variable effects)

<b>DAP #1:</b>				
Variables in the equation	Beta	Error of $\beta$	t	p
Sex	-2.47	1.94	1.27	.21
Care	2.76	2.35	1.18	.24
Educational	7.19	2.43	2.96	.004
Pre-test Scores	.29	.07	4.06	.000
<b>DAP #2:</b>				
	Beta	Error of $\beta$	t	p
Sex	-3.35	1.65	2.03	.05
Care	3.51	2.02	1.74	.09
Educational	5.99	2.13	2.81	.006
Pre-test Scores	.33	.07	4.73	.000
<b>DAP #3:</b>				
Sex	-4.00	1.81	2.21	.03
Care	3.7	2.21	1.67	.10
Educational	6.03	2.37	2.55	.01
Pre-test Scores	.33	.07	4.61	.000
<b>DAP: Total:</b>				
Sex	-10.24	5.02	2.04	.04
Care	10.15	6.11	1.66	.10
Educational	18.43	6.49	2.84	.005
Pre-test Scores	.34	.07	4.94	.000

For all drawings, the educational treatment indicated a significant contribution to the child's performance. Put clearly, children attending educational preschools significantly out-performed their counterparts at care schools and at home. When compared, they also significantly improved over time on all drawings. On two of the drawings and total scores, boys had higher outcomes when compared with girls.

#### 4.5.6.2 Interactive effects considered

To explain the results more fully, an interactive model was constructed, using two newly created interactive variables: 1) Sex x Care, and 2) Sex x Educ. The purpose of this further investigation is based on the assumption that there may be

possible independent variables interacting in a manner which would influence the effects obtained from the main effects analysis.

The results indicated that there were significant interactive effects for the Sex x Care variable on all three drawings (#1:  $t=3.36$ ;  $p<.001$ ; #2:  $t=2.08$ ,  $p<.04$ ; #3:  $t=2.75$ ,  $p<.007$ ). Such effects indicate that boys in the care group were affected more by treatment (preschool provision) when compared to girls, although variable effects inclusive of pre-test scores accounted for less than 32% of the variance.

For further clarification, the following table (Table 31) gives the mean scores and standard deviations according to group orientation and by gender.

The results mirror the findings from the previous regression analysis and the interactive effects. Overall, the boys received higher scores at post-testing than the girls ( $M=241.10$ , boys;  $M=232.84$ , girls) particularly at care preschools. Boys at the educationally orientated preschools did better than the girls on total outcomes (1,2,3) at post testing. At home, the girls continued to maintain their lead over the boys and they consistently did better than the girls at the care orientated preschool centres. These findings tend to support the previous assumption that mothers, whom are less educated than those at the preschool centres, are possibly providing means for drawing for the girls at home and not, particularly the boys yet this is purely conjecture and not substantiated by evidence.

By simple mean score comparisons at post-testing between the boys and girls in each group (care, educational and home) we can see that the least amount of difference is found in the educational groups, with the boys outscoring the girls on drawings #2 and #3. When the scores were compared between groups (care, educational and home), according to sex, the girls and boys at the educational preschools outscored those children at care preschools and home on post-testing results (Figure 14).

#### **4.5.7 DAP: Within groups analysis**

Another important step to consider in the analysis of variance is the comparison of preschools within each type of orientation: care and educational. In a sense this serves as another level of analysis which moves beyond the initial differences between groups by looking at the differences of preschools within each orientation (Plewis, 1985). Essentially, each preschool within an orientation



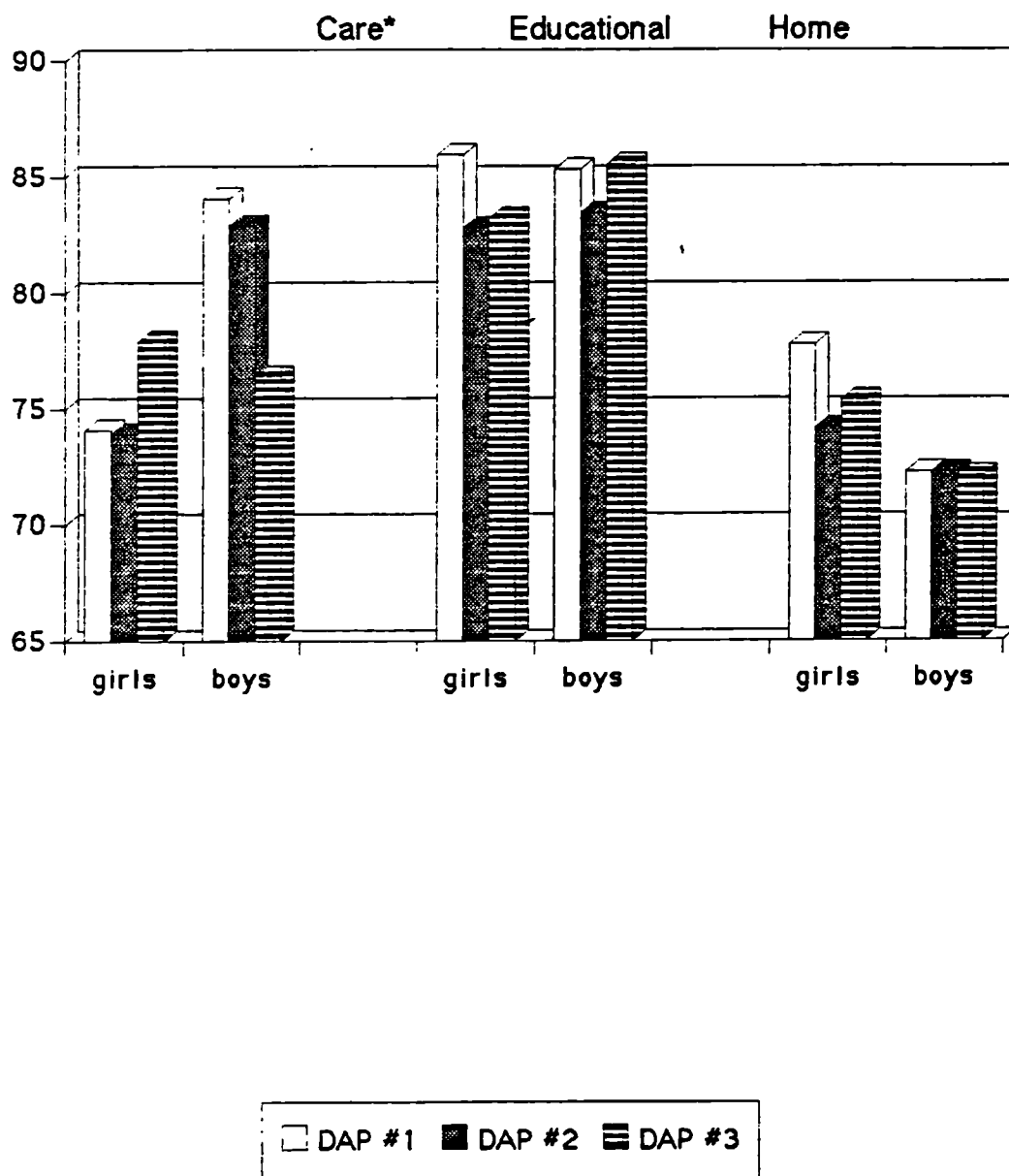
**Table 31: Mean Scores and Standard Deviations for Draw-A-Person Outcome Scores (#1 #2 #3) by Group Orientation and According to Gender**

**Draw-A-Person Scores**

DAP #1				DAP #2				DAP #3				DAP - Totals (1,2,3)				
Pre		Post		Pre		Post		Pre		Post		Pre		Post		
x	sd	x	sd	x	sd	x	sd	x	sd	x	sd	x	sd	x	sd	
CARE																
girls	80.48	9.96	74.11	9.94	78.21	9.00	73.96	7.89	77.93	9.63	73.74	9.06	236.62	26.27	221.82	25.91
boys	75.32	13.86	84.06	7.46	78.11	14.17	82.88	8.17	76.42	13.36	84.29	7.29	229.84	40.01	251.24	21.53
	F=2.26		F=12.53	p=.001			F=12.98	p=.000	F=.207		F=16.35	p=.000	F=.504		F=15.248	p=.000
Pre: 29g, 19b; Post: 27b, 17b																
EDUCATIONAL																
girls	89.96	13.23	85.96	8.04	87.17	9.51	82.78	7.21	88.29	11.71	83.22	11.77	265.42	32.26	251.96	24.17
boys	88.13	11.45	85.33	12.01	86.67	11.57	83.46	9.90	89.25	12.38	85.54	10.48	264.46	32.99	254.33	31.39
	F=.264		F=.04	p=.84			F=.07	p=.79	F=.076		F=.51	p=.48	F=.01		F=.08	p=.77
Pre: 24g, 24b; Post: 23g, 24b																
HOME																
girls	81.46	18.23	77.79	15.47	79.08	16.18	74.17	12.69	79.04	18.26	75.38	12.17	239.58	51.63	226.92	37.54
boys	74.65	11.91	72.25	11.76	71	9.91	72.25	12.81	71.05	8.22	72.1	13.03	216.7	27.12	216.6	36.08
	F=2.055		F=1.73	p=.20			F=2.5	p=.62	F=3.27	p=.08	F=.74	p=.39	F=3.19	p=.08	F=.85	p=.36
Pre: 24g, 20b; Post: 24g, 20b																
TOTALS (CEH)																
girls	83.74	14.42	78.99	12.43	81.27	12.35	76.77	10.25	81.51	14.07	77.22	11.60	246.52	39.26	232.84	32.11
boys	79.98	13.76	80.69	12.23	79.11	13.48	79.62	11.59	19.60	13.86	80.79	12.15	238.86	39.13	241.10	34.83
	F=2.49	p=.12	F=.64	p=.43			F=2.3	p=.13	F=.64	p=.42	F=3.03	p=.08	F=1.32	p=.25	F=2.05	p=.15
Pre: 77g, 63b; Post: 74g, 61b																

\* sign @ 95% level

**Mean Scores: Draw-A-Person Tests by group  
orientation and gender**



is fitted into the regression analysis along with pre-test scores to investigate effects, if any, on outcomes. The results indicated that the four care orientated preschools did not differ significantly between each other on all drawings (c1:  $t=.23$ ,  $p<.82$ ; c2:  $t=.06$ ,  $p<.95$ ; c3:  $t=.86$ ,  $p<.39$ ). Similarly, the four educationally orientated preschools, did not differ significantly between themselves (e1:  $t=.26$ ,  $p<.79$ ; e2:  $t=1.7$ ,  $p>.10$ ; e3:  $t=.18$ ,  $p<.86$ ).

In sum, it would appear that the educationally orientated treatment had a positive and significant effect on children's outcome measures for the Draw-A-Person test. Attendance at educationally orientated preschools was significantly associated with improved outcome measures over the testing time for children in the educational group when compared with children's outcomes at care centres and home. When a comparison of outcomes was made considering gender, it appears boys were affected more by the preschool treatment at care orientated settings when compared with girls.

It has been suggested in the course of this investigation that possible religious aspects and practices may have played an influential role in the children's performance, particularly at the preschools.

Further caution on interpreting these findings should consider the limitations of the DAP scale, as Harris (1963) points out. For example, the scores for the three and four year olds in the conversion table (raw scores to standard scores) are "tentative guides for use with preschool groups" (Harris, 1963, p.294). Conversion tables reflect validation and reliable measures on the analysis of children's drawings at 5 years (the lowest age recorded for reliability studies). The assessment from this sample which has a mean average age level of less than five years (at post- testing) for all three groups (Table 2), would suggest some questions concerning the reliability of the results. While several studies have reported reliable findings from the DAP sampled on young children below five years old, there are very few studies which have applied the DAP on this age group in Arab-speaking cultures. In all due consideration of the above mentioned concerns, some caution is urged before concluding that the children's drawings, particularly at post testing, reflect "conceptual growth with . . . mental age . . . experience and knowledge" as Harris suggests (Harris, 1963, p. 247).

## 4.6 The Preschool Behaviour Checklist (PBCL)

The instrument used to measure the emotional behavioural aspect of child development was the Preschool Behaviour Checklist (PBCL) developed by McGuire and Richman (1986). The PBCL serves as a screening instrument used to measure (estimate) the nature and prevalence of emotional and behavioural problems with pre-school children. By its nature (checklist) it is confined to a limited number of behaviours and "cannot always take into account uncommon events or qualitative differences between children" (McGuire & Richman, 1988). Colmar explains that checklists have an inherent *narrowness* embedded in them which emphasise assessment rather than intervention. "Instead of considering the *how* of learning and teaching, and indeed the *who* and *why*, behaviour checklists remain solidly concentrated on the *what*. . . [they] are not a curriculum nor. . . the whole of an assessment. It is a contribution to an assessment" (Colmar, 1988, p. 120).

This instrument was chosen because of its familiarity in the region (Al-Jasser, 1992; Kapci, 1990; Singh, 1991) and its ease in administration.

The PBCL consists of 22 items, covering five areas of behaviour: emotional, conduct problems, capacity to concentrate, social relations, and developmental issues. Each item has a score of 0, 1, or 2 which indicates that a behaviour is absent, present to a mild degree (possible problem), or present to a marked degree (definite problem). There is a possible total score of 44 and a cut-off score of 12 established to distinguish between children with and without problem behaviour (McGuire & Richman, 1986).

### 4.6.1 PBCL: Background with reliability and validation

Early systematic attempts to measure children's behaviour in the classroom were riddled with disadvantages. They were lengthy for teachers to complete on entire classrooms, lacked recent validation, and were not suited for pre-adolescent children. Then, in the mid-sixties Richman and Graham (1964) and others (Ross, Lacey & Parton, 1965; Rutter, 1967; Scott, 1963) drew upon their psychiatric experience and developed reliable *clinically-diagnostic* scales for use in the classroom for pre-adolescent children (Rutter & Graham; 1966). Behavioural checklists designed to be used by teachers for preschool age children followed Behar & Springfield (1974). Achenbach (1978) later developed a complete set of rating forms designed to obtain reports of children's problems and competencies in a standardised format, i.e. the Teachers Report Form (TRF), the Youth Self-Report (YSR) and the Direct Observation Form (DOF). McGuire and

Richman (1986) similarly, developed a preschool behaviour checklist to identify children with behavioural/emotional difficulties 'that were clinically relevant' (McGuire & Richman, 1988). This scale was carefully validated in three ways: (a) by looking at the agreement between scores on the PBCL and independent ratings by a psychiatrist (criterion validity) (b) by cluster analysis--grouping individuals together who have the same pattern of behaviour on the measure (clinical validity), and (c) a factor analysis (construct validity) which resulted in three different factors: factor 1) *Conduct/restless* behaviours, such as, too active not liked, poor concentration, difficult to manage, fights, interferes and destructive; factor 2) *Isolated/immature* behaviours, like, unclear speech, reluctance to talk, withdrawn from peers, wanders and withdraw from staff; factor 3) *Emotional behaviours* such as demands attention, whines, sensitive and miserable.

The reliability was measured in three ways: inter-rater, test-retest, and internal consistency. Two staff members drawn from three different nursery centres completed the PBCL. For total PBCL scores, the correlation agreement between staff members yielded 0.68 ( $p < .001$ , Pearson product-moment correlation). There was 83% agreement on whether the child scored above or below the cut-off point. However, of those children scoring above the cut-off point by at least one staff member, there was complete agreement only with 38%. When scores between staff members were correlated on each item, all but four items correlated above 0.40 (correlations/loadings below 0.40 were ignored as statistically insignificant by McGuire and Richman). The range of scores was from .23 to .81, with the best agreements found in Factor 1 - conduct problems.

A correlation coefficient of .88 ( $p < .001$ , Pearson Product-Moment) between two ratings for test-retest reliability was made after a two week interval. High agreement occurred when correlated scores were compared above and below the cut-off point (88% above; 93% below). Cronbach's alpha, a statistical method for measuring how closely each item is related to all the other items and to the total score on the checklist, was used to find the internal consistency rate. Results found a 0.83 for Cronbach alpha, and 0.83 for split/half reliability (Spearman-Brown).

The PBCL has been applied in several languages throughout many countries. Some studies are clear and consistent, obtaining similar prevalence rates of children identified with behavioural/emotional difficulties (Crowther, Bond, Rolf, 1981; Al-Jasser, 1992; Singh, 1991). Other research has been less straight forward, showing considerable variability in findings (Clark & Cheyne, 1979; McGuire & Richman, 1986; Richman & Graham, 1971; Chazan & Jackson, 1974).

Some of the limitations and questions involving the use of behaviour checklists have been mentioned in the Chapter 1, Review of the Literature, section 1.5.1.

#### **4.6.2 PBCL: Adapted and applied in Bahrain**

The PBCL was translated into Arabic in a previous study by a 'translation bureau' in Riyadh City, Saudi Arabia. (Al-Jassar, Mona, *An Assessment of the Preschool Behaviour Checklist in Screening Nursery Children For Emotional and Behavioural Problems in Riyadh City*, University of London, Institute of Education, Masters dissertation, 1990).

A team of four researchers, two of which were official Arabic translators, reviewed the Arabic translation of the PBCL from Saudi Arabia for context and language. It was decided that further back-translations were necessary for the PBCL to be used in this study (Appendix B, for translation procedure, Brislin et al., 1973). Two university colleagues volunteered to rate the adapted version of the PBCL by items for language acceptability using a Likert scale with a 1 to 5 agreement range. Results showed a significant correlation agreement between the two raters ( $r=.49$ ,  $p<.05$ , Spearman's rank order correlation). This adapted version was tested for reliability (inter-rater agreement) on 12 children and the results showed a perfect (100%) agreement between the teacher's ratings.

#### **4.6.3 PBCL: Pilot study**

To administer the PBCL, two head teachers drawn from four preschool centres (two care orientated and two educationally orientated) were given instructions on how to fill out the checklist, familiarising themselves with the items. Each directress was asked to observe the children for at least a week before filling in the checklist. Only recent behaviour was to be recorded. For each child ( $n=24$ ) the PBCL was completed by two teachers selected from four preschool centres (two care- orientated and two educationally-orientated). When the scores (mean scores from four preschools) were compared between raters the overall correlation was high ( $r=.96$ ,  $p<.000$ , Pearson product moment correlation). There was complete (100%) agreement between them on whether the child scored above or below the cut-off point.

The results indicated that 12.5% (3 children) scored above the cut-off point (12), indicating a definite identification of emotional/ behavioural problems. The mean PBCL scores for both the care and educational groups were 8.5 and 4.8, respectively. The prevalence rate for scores compared according to preschool

orientation showed 25% for the care group and 0% for the educational group. The care group accounted for the total number of scores >12 in the total sample (24).

When scores were compared according to sex the mean scores for girls was 5.9, indicating that over 14% of girls identified as having emotional and/or behavioural problems. The mean score for the boys was 7.7, indicating a prevalence rate of 10% amongst them. The difference in prevalence rates by sex may be accounted for by the small number of boys in the sample (10) as compared to the girls (14). Previous research indicates higher prevalence rates for boys (Al-Jassar, M., 1990; Jackson, 1989; McGuire & Richman, 1986).

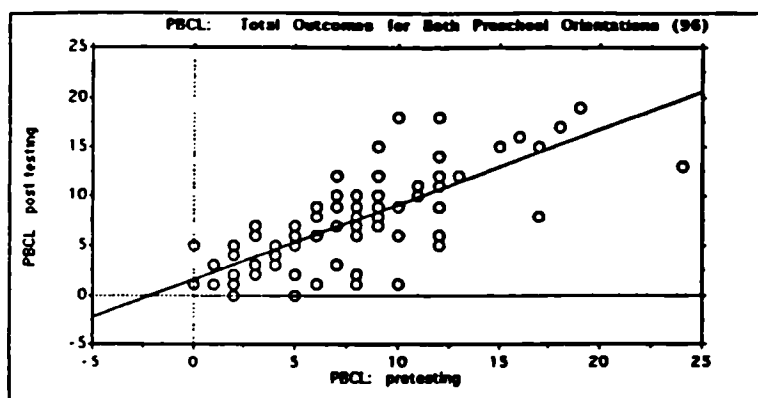
#### **4.6.4 PBCL: Results: Main sample (pre-testing and post-testing)**

A combination of parametric and nonparametric statistical procedures were chosen for the analysis of the results. This was done for two reasons. First, although the data was not interval or ratio status, when frequency distributions were graphed, the distribution of scores were symmetrical at both pre-testing and post-testing indicating homogeneous sampling. Secondly, when pre- and post-testing scores were correlated and graphed (scatterplot) for each orientation group and total outcomes, positive and linear relationships between pre- and post-test scores, resulted (Figure 15). This criteria, symmetrical distribution of scores and linearity were the basis upon which to use parametric measures (Plewis, 1994). Therefore, the analysis of the PBCL results followed a conditional pre- and post-test design model which looked at change between groups over time, i.e. an analysis of variance, followed by a regression model fitted with background variables and then, a within groups analysis. Whereas several studies (Al-Jasser, 1990; Kapci, 1990) have used techniques such as factor analysis and cluster analysis in analysing similar data, it was not considered appropriate in this study due to the small sample size. Non-parametrical procedures were used to express proportions of children with/without behavioural/emotional problems.

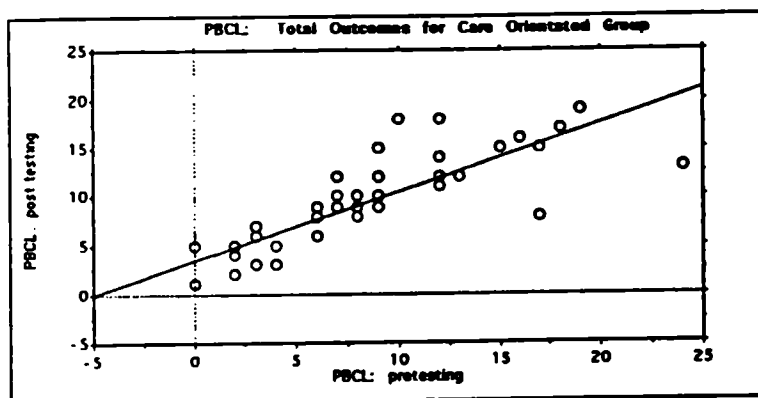
The PBCL was administered to the two preschool groups (care and educationally orientated (n=96) children at pre-testing and 91 children at post-testing. Initially, all preschool teachers participating in the assessment were asked to carefully review the PBCL for questions and queries. Teachers were advised to observe those children selected for two-three weeks before completing the checklist. The

Figure 15:

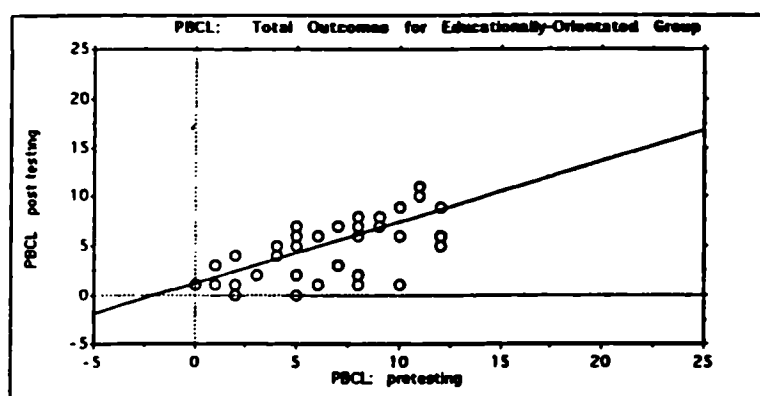
## PBCL: Scatterplots for Pre and Post Test Outcomes



$N=91$ ;  $df=90$ ;  $R=.775$ ;  $slope=.757$ ;  $st. \text{ err}=.065$ ;  $t\text{-value}=11.58$ ;  $p=.000$



$n=44$ ;  $df=43$ ;  $R=.82$ ;  $slope=.70$ ;  $st. \text{ err}=.08$ ;  $t\text{-value}=9.1$ ;  $p=.000$ ;  $R^2=.66$



$n=47$ ;  $df=46$ ;  $R=.67$ ;  $slope=.624$ ;  $st. \text{ err}=.10$ ;  $t\text{-value}=6.1$ ;  $p=.000$ ;  $R^2=.45$



requested period in the PBCL manual requires a minimum of one week before completing the checklist, but the teachers, researcher, and volunteers agreed that a longer period was necessary so that the children could settle-in before any assessing took place. All the teachers who had previously participated in the assessment of children at pre-testing were asked to follow the same procedure for completing the checklist at post-testing.

Tables 32 and 33 show the mean scores and percentage rates for children in both preschool groups at pre-testing and post-testing. Out of the 96 children assessed at pre-testing, 18.8% (18) scored 12 or more on the PBCL, indicating an identification of emotional or behavioural problems. The prevalence rate for scores compared according to preschool orientation showed 33.3% for the care group and 4.16% for the educational group. At post-testing (Table 33) all children identified with definite behavioural problems were represented in the care group (36.4%). This percentage increase (from pre-testing) for the care group was accounted for by the decrease in sample size, not an increase in the number of children identified with behavioural-problem. There were no children reported to have definite behavioural problems at educational preschools, indicating an improvement from pre-testing. The overall prevalence rate actually decreased during the interval between assessments (8-9 months).

Table 32:

**PBCL: Mean scores and standard deviations  
by preschool orientation  
(at pre-testing and post-testing)**

	N	Mean	SD	Mean diff.	Z
<b>Care</b> orientated preschools					
Pre-testing	48	8.8	5.8	+.7	1.8**
Post testing	44	9.5	4.8		
<b>Educationally</b> orientated preschools					
Pre-testing	48	6.5	3.4	-1.0	
Post testing	47	5.2	3.2		4.36**
<p>Note: Higher mean scores indicate presence of possible behavioural problems.  Mean difference: The difference between mean scores from pre- to post-testing; an + indicates increase of problem; a - indicates a decrease of problems.  **Between groups (Care vs Educ): Pre: Z=-1.8, p&lt;.001, corr for ties Post: Z=-4.36, p&lt;.001, corr for ties, Mann-Whitney U test; (Z score is given if sample size &gt;10; formula given by Siegel, <i>Nonparametric Statistics</i>, 1988, pp.132-136).</p>					

The results indicated a significant difference between groups associating the higher scores (more problems) with performance at the care group when compared with the educational group (pre-testing: Mann-Whitney U:  $z=1.8$ ,  $p<.001$ ; post testing:  $z=4.36$ ,  $p<.001$ ).

Table 33:

**Prevalence rates and percentages of children identified  
with definite behavioural problems (scores >12)**

	<b>Care</b>		<b>Educational</b>	
	pre	post	pre	post
<b>Percentage scores &gt;12</b>	33.6%	36.4%	4.16%	0%
<b>N</b>	(16)	(16)	(2)	
<b>Prevalence rates (total sample)</b>	<u>Pre-testing</u> 18.8%		<u>Post testing</u> 17.6%	

#### 4.6.4.1 Multiple regression analysis

The results, so far, have attempted to describe the findings, but they have not shown any causal link between the preschool provision and the identification of children with emotional problems. The other question which needs to be addressed is the relative change over time between groups, "Was there an improvement associated with preschool provision over time?" Several background variables were considered in a regression analysis to answer these questions. Aside from the previous background variables used in Table 2, three teacher variables were entered into the equation. They were:

- 1) teacher's educational background (high school graduate, high school graduate with teacher training, and university graduate)
- 2) teacher's length of teaching experience (less than one year; 1-5 years; 6-10 years; over 11 years); and
- 3) the teacher's age range (less than 20 years; 21-29 years; 30-39 years; over 40 years).

For the entire teacher sample, all teachers were female, Bahraini nationals less than 40 years old, with 71% between the ages of 21-29 years. Slightly more than half were married (54%) and none were divorced. As many as 96% went as far as secondary school and only one teacher went to college (from the educational

group). Of the total, only eight per cent received any kind of teacher training and they were all from the educational group.

The following table (Table 34) shows the results of a multiple regression model fitted with the above mentioned variables. Bearing in mind that higher scores produced the presence of behavioural problems, the direction of the beta coefficients must be interpreted accordingly.

Table 34:

**Variable effects on PBCL outcomes**

Variables	coeff.	sd error	t	p
<u>Background variables</u>				
type of preschool provision	-2.83	.69	4.07	.0001
age	-.02	.07	.21	.84
sex	.02	.70	.03	.98
months in treatment	.05	.07	.71	.48
mother's age	-.2	.49	.41	.68
mother's education	-.02	.10	.18	.86
father's occupation	.03	.17	.18	.86
<u>Teacher variables <sup>a</sup></u>				
teacher education	-.24	.92	.26	.80
years teaching	-.07	.94	.07	.94
teacher's age	.14	1.07	.13	.90
Pre-test scores (covaried)	.67	.07	9.52	.0001
R=1 R2=.678 F=15.154 p=.0001				
<sup>a</sup> . All teacher variables were entered categorically: 1) teacher's educational background: 0= < high school; 1= high school graduate; 2 = high school graduate w/training; 3 = college graduate 2) years teaching: 0 for <1 yr; 1 for 1-5 yrs; 2, for 6-10 yrs; 3, for over 11 yrs 3) teacher's age: 0 = <20 yrs; 1= 21-29 yrs; 2 = 30-39 yrs; 3 = over 40 yrs.				

The findings indicate a significant improvement over time for the educational group (type of provision). When preschools were compared, the educational group significantly outperformed the care group on outcomes measures ( $t=4.1$ ,  $p<.000$ ). Pre-test scores, as expected, proved to be a positive predictor of outcomes. No other background variables contributed significantly to outcome scores. Likewise the three teacher variables entered into the equation did not show any significant effects on outcome measures. The negative coefficients for the two variables, teacher education and years teaching, suggest that as teacher experience and education increase, scores decline, which is similar to previous studies (McGuire & Richman, 1986; Singh, 1991), although the relationship is weak, i.e. beta coefficients are small. The positive association for months in

treatment implies that the longer period in treatment may be associated with higher scores, yet this is not significant. The full regression model which looks at variable effects on outcomes suggests that there were no differential effects on outcomes by gender which runs contrary to the body of research which clearly indicates that boys are more often identified with having definite behavioural problems when compared with girls (Achenbach et al., 1978, 1987; Al-Jasser, 1990; Jackson, 1990; McGuire & Richman, 1986; Osborn et al., 1987; Rutter, 1967, 1970). Actually, sex differences were associated with outcomes (prevalence rates) and this is shown in Table 37, which compares the proportions of behavioural/emotional problems with children with scores >12 and not the mean scores. When the analysis was reduced to a more concise model (Table 35) entering only those variables significantly related to outcomes the amount of variance decreased by less than one per cent.

Table 35:

**PBCL: Concise regression analysis considering  
contributing variables**

Variable	beta	std error	t	p
Types of preschool provision	-2.8	.558	5.017	.0001
Pre-test scores (covaried)	.68	.06	11.376	.0001
Note. There are two groups of preschool provision, therefore one dummy variable is considered in the analysis. Dummy 2 (educational) was entered indicating the significantly higher scores for dummy 1 (care) when compared.				

#### 4.6.4.2 Interactive effects considered

Several variables were considered for possible interactive effects:

- a) Type of provision x Teacher education (care:  $t=.87$ ,  $p=.39$ ; educ:  $t=.39$ ,  $p<.70$ );
- b) Type of provision x Years teaching (care:  $t=.01$ ,  $p=.99$ ; educ:  $t=.01$ ,  $p<.99$ );
- c) Age x Teacher's age ( $t=1.41$ ,  $p=.16$ ).

There were no significant findings from the above interactive variables.

#### 4.6.4.3 Within-groups analysis: Differences within each preschool orientation

A further investigation was conducted to see whether preschools within an orientation were behaving similarly. Each preschool was considered to see if there were any differences between them in a given orientation. The questions were asked, "Were all preschools behaving in a similar manner? Were any preschools within an orientation group accounting for higher/lower scores?" When individual schools were considered within the care orientation, the results indicated all preschools were behaving similarly, except for one particular care preschool, (c2). Considering distributions of scores, it was found that two outliers were responsible for the asymmetrical distribution. Once adjusted for, the equation showed no significant findings for individual preschool effects (c2:  $t=1.7$ ,  $p<.09$ ; c3:  $t=.25$ ,  $p<.80$ ; c4:  $t=.82$ ,  $p<.42$ ). For the educational preschools all schools were behaving similarly (e2:  $t=.96$ ,  $p<.34$ ; e3:  $t=1.8$ ,  $p<.07$ ; e4:  $t=1.09$ ,  $p<.28$ ).

#### 4.6.4.4 PBCL: Investigation of total scores and scores > 12 for comparing by gender

Although the previous regression analysis takes into consideration the various background characteristics in presenting a causal relationship between preschool effects on outcome scores, it does not consider the scores above or below the cut-off points. In the following table (Table 36) the combined scores from both preschool groups (care and educational) are compared according to gender. The mean scores for the girls was 7.02, with 14% (7) identified as having emotional or behavioural problems. The mean score for the boys was 7.6, with 22% identified with problems. Both percentages can be attributed to the care orientated preschool settings. Consistent with previous findings (Al-Jasser, 1990; Chazan & Jackson, 1974; Jackson, 1989; Kapci, 1990; McGuire &

Richman, 1986; Singh, 1991) boys were identified as having more problems than girls.

**Table 36:**

**PBCL**  
**Mean scores, standard deviations and**  
**percentages >12 and <12 by gender**

	<b>Girls</b>	<b>Boys</b>	<b>chi-sq</b>
<b>Pre-testing (n=96)</b>			
mean	6.8	8.6	
sd	4.4	5.3	
scores >12	18.9% (10)	20.9% (9)	.06
scores <12	81.1% (43)	79.1% (34)	
<b>Post-testing (n=91)</b>			
mean	7.02	7.6	
sd	4.5	4.7	
scores >12	14% (7)	22% (9)	.99
scores <12	86% (43)	78% (32)	
Note: There were 53 girls, 43 boys in the pre-testing sample; and 50 girls and 41 boys in the post-testing sample. Chi-square analysis showed there were no significant differences between girls and boys identified with definite behavioural problems (scores >12) at pre-testing or post-testing.			

The above analysis considers gender across the total samples at pre-testing and post-testing. In the following table (Table 37) prevalence rates were compared between the two types of preschool settings according to gender.

Table 37:

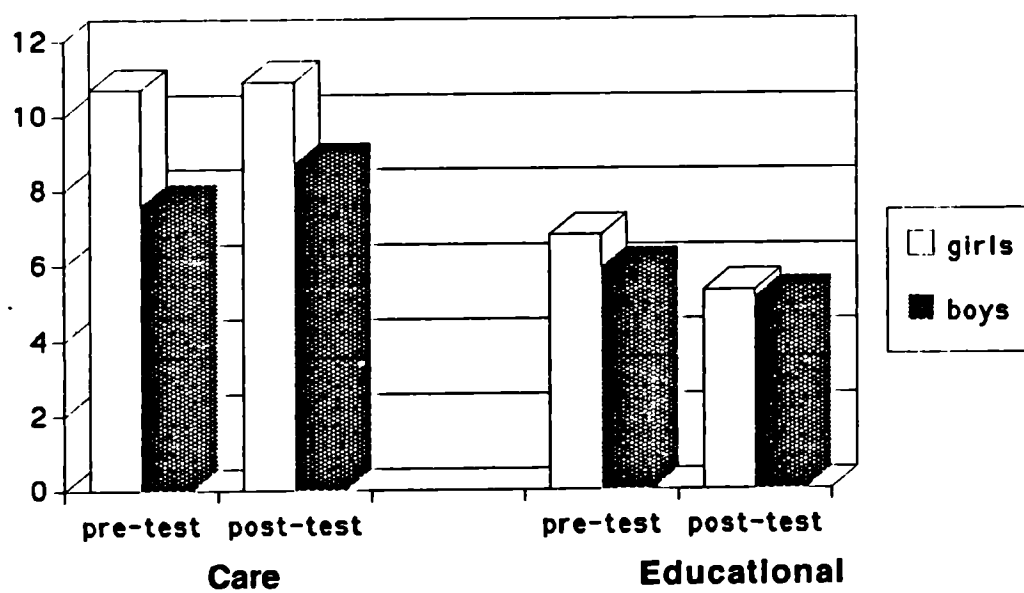
**PBCL**  
**Mean scores, standard deviations and**  
**percentages of scores >12 (cut-off) by gender**  
**in each preschool orientation**

	Care			Educational			
	mean	sd	>12	mean	sd	>12	
<b><u>Pre-test</u></b>							
<b>Boys</b> n=19 n=24	10.7	6.6	47.4% (9)	6.8	3.0	0%	(p<.009)
<b>Girls</b> n=29 n=24	7.6	4.9 (7)	24.1%	5.9	3.7 (2)	8.3%	(p<.17)
	(p<.06)			(p<.48)			
<b><u>Post-test</u></b>							
<b>Boys</b> n=17 n=24	10.9	4.4	52.9% (9)	5.3	3.4	0%	(p<.000)
<b>Girls</b> n=27 n=23	8.7	4.9	25.9% (7)	5.1	2.9	0%	(p<.004)
	(p<.14)			(p<.93)			
Differences between mean scores were compared by t-test analysis shown in. Numbers in parenthesis indicate actual number of children in group.							

The results indicate that there were no significant mean score differences between boys and girls *within* each orientation yet when mean scores were compared *between* preschool orientations by gender, there were significant differences found. Boys at care centres at pre- and post-testing were significantly more likely to be identified with behavioural problems than were boys at educational centres. At pre-testing, girls showed no significant differences yet at post-testing there was a significant difference found that identified more girls with problems at care centres. Overall, sex differences did not emerge within a given orientation, but rather when similar sex were compared across the two preschool orientations (Figure 16).



**Figure 16: PBCL: Mean Scores for Boys and Girls at Pre-testing and Post-testing (by Preschool Orientation)**



#### 4.6.5 Summary

The PBCL assessed emotional/behavioural problems in a sample of 96 (pre-test) and 91 (post-test) children, all matched for individual backgrounds and by preschool orientation. The overall prevalence rate was 18.75% at pre-testing and 17.58% at post- testing.

The results, when the two types of preschools were compared indicated the care group had a higher prevalence rate of behavioural problems and an increase in the percentage of scores above the 12 cut-off point over the testing time period (Care: 33.6% at pre-testing, 36.4% at post-testing; Educational: 4.2% at pre-testing, 0% at post-testing). The educational group made a significant improvement over the testing interval of time (Table 35,  $p < .0001$ ), indicating fewer number of children identified with behavioural problems. The pre-test scores proved to be a positive predictor of outcomes, while background and teacher explanatory variables did not contribute significantly to outcome scores (Table 35). Individual preschools within each orientation were examined for similarity. All schools in both orientations were behaving in a similar manner (correction for outliers in distribution on one care preschool were taken into consideration, (section 4.7.4.3). At pre- and post-testing, boys had higher prevalence rates when compared to the girls (pre-testing: 47.5% vs 24.1% and post testing: 52.9% vs 25.9%, respectively). There were significant differences by similar gender comparisons across the two types of preschool orientations, i.e. boys at care preschools were identified as having significantly more problems than boys at educational preschools; and girls at care preschools (at post-testing) were also significantly more likely to be identified as having behavioural problems when compared to girls at educational settings.

#### **4.7 The Pictorial Scale of Perceived Competence and Social Acceptance For Young Children (PSPCSA)**

The instrument used to assess children's self-judgements (self-concept and self-esteem) was The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSA) by Susan Harter (1983). The PSPCSA has a pictorial format comprising 24 items across four specific domains: cognitive, physical, peer and maternal. The instrument was constructed to allow researchers to obtain a 'profile' of self-concept scores across specific domains as well as a separate index of the child's sense of 'global self-esteem' (Harter, 1989, p. 67). The underlying assumption to this approach is that children view themselves differently in each domain, i.e. cognitive competence, physical competence, peer acceptance, and maternal acceptance (Harter, 1982, 1990b, 1991; Harter & Pike, 1984).

The child is required to indicate the picture which appropriately depicts the way he/she perceives him/herself, i.e. the child on the left is 'good' at puzzles and the child on the right is 'not so good' at puzzles (Harter & Pike, 1984). After the child indicates the picture most like him/herself, he/she is then asked whether they are 'a lot' like the girl/boy in the picture (a big circle) or just 'a little bit' like the girl/boy in the picture (a small circle). Each item is scored on a four-point scale: 1, designating the least competent and 4, the most competent or accepted.

##### **4.7.1 Background on the PSPCSA**

Initially, Harter devised a scale for older children, The Perceived Competence Scale For Children, (PCSC), (Harter, 1982) and applied it on several samples throughout the US (341-third graders in Connecticut and California; 714 in N.Y.; 470 in Colorado; 746 in California). Across all samples, reliabilities ranged from .75 - .86 for the four subscales with factor patterns virtually identical for teacher ratings (.74 - .86). When the relationship between perceived cognitive competence scores and standardised achievement test scores were taken (Iowa Test of Basic Skills) correlations ranged from .27 in third grade to .54 in ninth grade. As Harter reminds us, these findings seem to raise the possibility that perceived competence construct is qualitatively different at different developmental levels (Harter, 1986; Harter & Pike, 1984; Stipek 1981).

The PSPCSA is a downward extension of the PCSC and is designed for the 4-7 year old child. As mentioned, it has a pictorial format and its contents are

described in two general constructs-perceived competence (cognitive, physical) and perceived social acceptance (peer, maternal). Unlike the PCSC, it does not contain a self-worth subscale. Harter and others claim that young children are not capable of making judgements about their worth until approximately 8 years of age (Harter, 1982; Harter & Pike, 1984; Harter, 1990b; Damon & Hart, 1982). Often young children confuse the wish to be competent with reality, that is, they blur the distinction between their ideal self-image and the real self (Glick & Zigler, 1985; Haltiwanger & Harter, 1988; Harter, 1982; Neeman & Harter 1986; Stipek, 1981). To determine the factorial validity of the scale, an oblique (promax) rotation was applied, allowing factors to inter-correlate. Harter used Cattell's 'scree' test based on eigen-values which resulted in a two-factor solution: Factor 1: *competence* subscales; Factor 2: *acceptance* subscales. Both groups received moderate to high loadings (Harter & Pike, 1984). The subscales which make up the competence domain are six cognitive items and six physical (competence) items. The acceptance domain has a peer and a maternal acceptance subscale, each with six items.

To verify the validity of the children's responses, Harter asked the children after testing how they knew they were 'good at/not good at' the individual activity (convergent validity; Harter & Pike, 1984). Responses were coded giving higher correspondence rates for the cognitive and physical domains (96%, 97%, respectively). Additionally, samples were taken for testing the PSCSA's discriminating validity. One example was a two year study on 12 children held back for one school year. They were compared with a matched sample of 12 children who were promoted. Cognitive competence scores were found to be significantly lower ( $p < .005$ ) for those held back (Harter & Pike, 1984).

Teachers were also given a chance to rate the scale. Their findings indicated that the correlations between self and teacher ratings in both the competence domains were significant. The highest correlations were within the cognitive and physical domain.

The reliability coefficient for internal consistency on the total scale was in the .80s range. When subscales were combined by designated factors, reliabilities ranged from .75 to .89. Individually, subscale values ranged from .50 to .85.

#### 4.7.2 The PSPCSA adapted and applied in Bahrain

The PSPCSA was translated and back-translated by two official bilingual translators working at Bahrain University (Brislin et al., 1973). Again, classical Arabic was used as the target language for ease in administering in Arab speaking countries. There were two booklets and recording sheets that were translated - one each for females and males. Some of the pictures were altered to suit the cultural, religious and socio-economic context of the study: for items, #4 & #8, a black veil (hejab) was put on the pictures of the mother; for items #5, #7, #13, #16, #20, #24 in the manual for the girls, the trousers worn by either child or mother were changed to a skirt; for item #20, the vacuum cleaner was changed to a broom (see Appendix L for complete booklets).

The reliability was measured in two ways - by looking at the stability of the scores over a period of time (test re-test) and by correlating the ratings made by two colleagues on each item (inter-rater agreement). A perfect correlation would give a coefficient of 1, and no agreement a coefficient of 0.

A retest reliability measure was taken over a two week interval on 24 children, 12 each from care orientated preschools and educationally orientated preschools. The children were between 3 years 10 months to 4 years 8 months, and the mean age was 4.2 years for both groups (preschoolers). All children were matched on several background variables (Chapter 1, Design & Sample, section 2.1.4, Table 2). The Pearson product moment correlation coefficient between the two ratings was .98 ( $p < .000$ ).

The contents (24 items) of the scale was rated for acceptability and application. Two independent raters assessed the items by agreement (Likert scale) yielding a significant correlation coefficient (Spearman rho = .62,  $p < .001$ ). The correlation (Spearman rho) of the total scores was .62 ( $p < .001$ ). The best agreements were between items in the physical competence subscale (100% agreement on all six items) followed by the maternal acceptance subscale which had an agreement of .83).

### 4.7.3 PSPCSA: Pilot study

Two trained volunteers administered the PSPCSA on the 24 children in the pilot sample - 12 children from care orientated preschools and 12 children from educationally orientated preschools (see Pilot study sample, Appendix A). Administrative procedures were followed from the Procedural Manual To Accompany: The PSPCSA for Young Children (Harter & Pike, 1984).

When the scores between the two groups (care orientated preschoolers and educationally orientated preschoolers) were compared the results indicated a significant difference ( $df=22$ ,  $t=7.22$ ,  $p<.000$ ). The mean scores were 71.83 and 85.33 for care and educational groups, respectively. Distinctions between the two factors (competence & acceptance) and any discriminations between subscales were not looked at during the pilot study. The main focus was to demonstrate the scale structure based on group data for the complete scale.

### 4.7.4 PSPCSA: Main sample

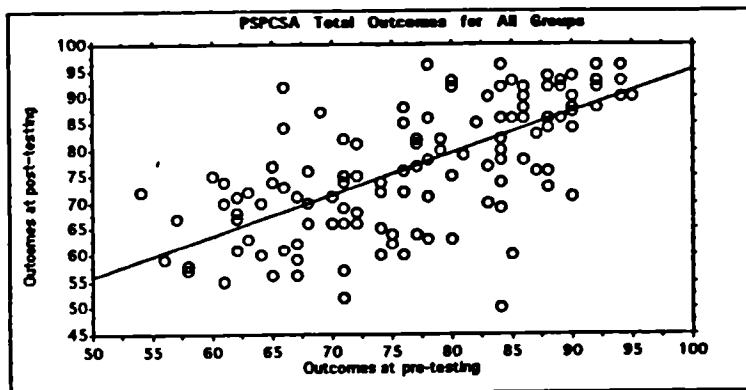
The PSPCSA was administered by two trained volunteers on 140 children at pre-testing (96 from the preschool centres and 44 from the home sample) and 135 children at post-testing (91 from preschool centres and 44 in the home groups). Similar procedures for administration of the PSPCSA were followed for the main sample as were used in the pilot study.

#### 4.7.4.1 Methods of analysis: Main sample

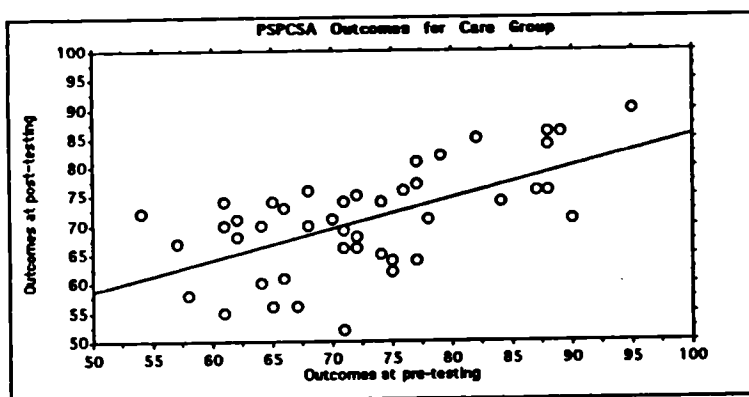
At pre- and post-testing, frequency distributions were graphed for the total outcome measures according to group orientation in order to determine the appropriate analysis procedure. All groups demonstrated symmetrical distributions with children reporting both positive and negative feelings of competence and acceptance. Scatterplots were constructed to see the relationship between pre- and post-test measures for total scores and by group orientation (Figure 17). Positive linear relationships were reported for all correlations.

The procedure for analysis followed a focus on main effects (analysis of variance) with a regression model considering the explanatory variable effects, if any on children's outcome measures. This was followed by a further investigation into the comparison of preschools within each preschool orientation. It was considered important to show how preschools were behaving individually within an orientation group.

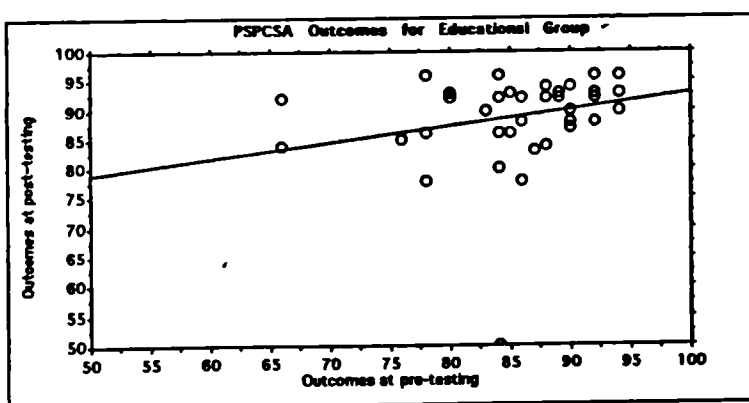
Figure 17: Scatterplots: PSPCSA Outcomes



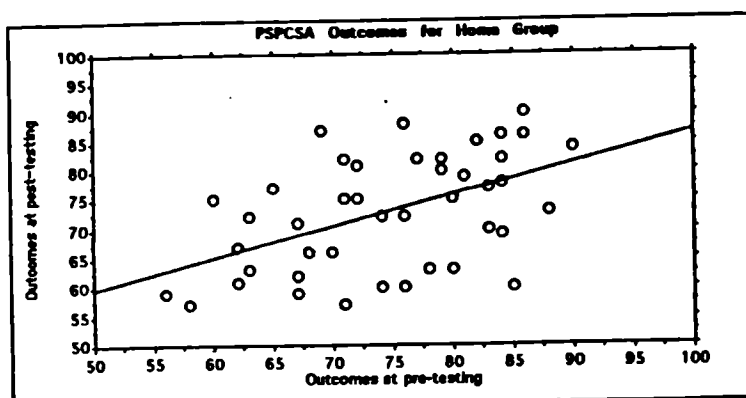
**n=135, df=134**  
**slope=.786**  
**st. error=.073**  
**t-value=10.78**  
**p=.000**  
**R=.683**



**n=44, df=43**  
**slope=.538**  
**st. error=.109**  
**t-value=4.92**  
**p=.000**  
**R=.604**



**n=47, df=46**  
**slope=.326**  
**st. error=.118**  
**t-value=2.77**  
**p=.008**  
**R=.389**



**n=44, df=43**  
**slope=.538**  
**st. error=.149**  
**t-value=3.62**  
**p=.000**  
**R=.487**

Table 38:

**Total scores, mean scores and standard deviations  
for subscale categories  
(according to group orientation)**

[illegible]



The results by subscale outcomes indicate significantly higher scores in all four categories for the educational group at post-testing. The children in the care group improved on the cognitive subscale from pre-testing to post-testing but there was no significant improvement in the other subscale categories. Children at home also did not show any improvement at post-testing.

#### 4.7.5.1 Analysis of variance between groups for subscale groups

When the three groups were compared by an analysis of variance between the groups (at post-testing) a significant difference was recorded for each subscale category. The post hoc tests, Fisher PLSD and Scheffe's test indicated significant findings for the educational group in all four subscales (cognitive, physical, peer and maternal).

Table 39

#### **Analysis of variance tables for PSPCSA subscales between preschool groups**

<b><u>Cognitive subscale</u></b>				
<u>Source</u>	<u>DF:</u>	<u>Sum Squares</u>	<u>Mean Squares</u>	<u>F-test</u>
Between groups	2	655.612	327.806	55.81
Within groups	132	775.322	5.874	p=.000
<u>Total</u>	<u>134</u>	<u>1430.933</u>		
<u>Comparison</u>	<u>mean diff</u>	<u>Fisher PLSD</u>	<u>Scheffe F-test</u>	<u>Dunnett t:</u>
Group 1 vs 2	-4.121	1.006*	32.859*	8.107
Group 1 vs 3	.886	1;.022	1.471	1.715
Group 2 vs 3	5.008	1.006*	48.513*	9.85
<b><u>Physical subscale</u></b>				
<u>Source</u>	<u>DF:</u>	<u>Sum Squares</u>	<u>Mean Squares</u>	<u>F-test</u>
Between groups	2	490.372	245.186	29.656
Within groups	132	1091.331	8.268	p=.000
<u>Total</u>	<u>134</u>	<u>1581.704</u>		
<u>Comparison</u>	<u>mean diff</u>	<u>Fisher PLSD</u>	<u>Scheffe F-test</u>	<u>Dunnett t:</u>
Group 1 vs 2	-4.291	1.193*	25.307*	7.114
Group 1 vs 3	-.659	1.213	.578	1.075
Group 2 vs 3	3.632	1.193*	18.13*	6.022

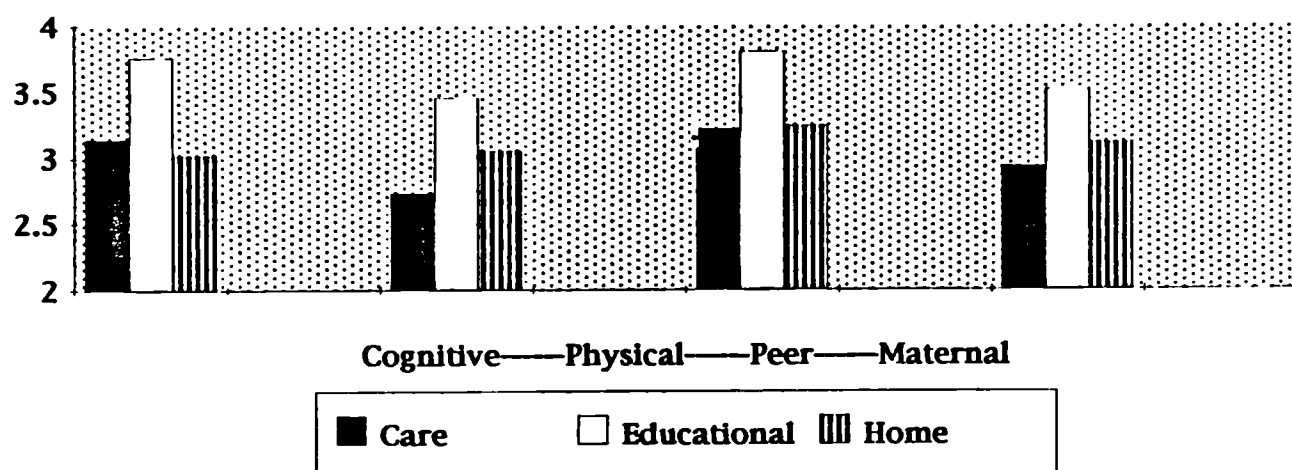
(continued - analysis of variance tables for PSPCSA):

<b>Peer subscale</b>				
Source	DF:	Sum Squares	Mean Squares	F-test
Between groups	2	805.771	402.885	37.159
Within groups	132	1431.162	10.842	p=.000
Total	134	2236.933		
Comparison	mean diff	Fisher PLSD	Scheffe F-test	Dunnett t:
Group 1 vs 2	-5.508	1.366*	31.791*	7.97
Group 1 vs 3	-.864	1.389	.757	1.23
Group 2 vs 3	4.644	1.366*	22.603*	6.72
<b>Maternal subscale</b>				
Source	DF:	Sum Squares	Mean Squares	F-test
Between groups	2	613.495	306.748	34.387
Within groups	132	1177.498	8.92	p=.000
Total	134	1790.993		
Comparison	mean diff	Fisher PLSD	Scheffe F-test	Dunnett t:
Group 1 vs 2	-5.123	1.239*	33.428*	8.177
Group 1 vs 3	-1.886	1.26*	4.388*	2.962
Group 2 vs 3	3.236	1.239	13.342*	5.166

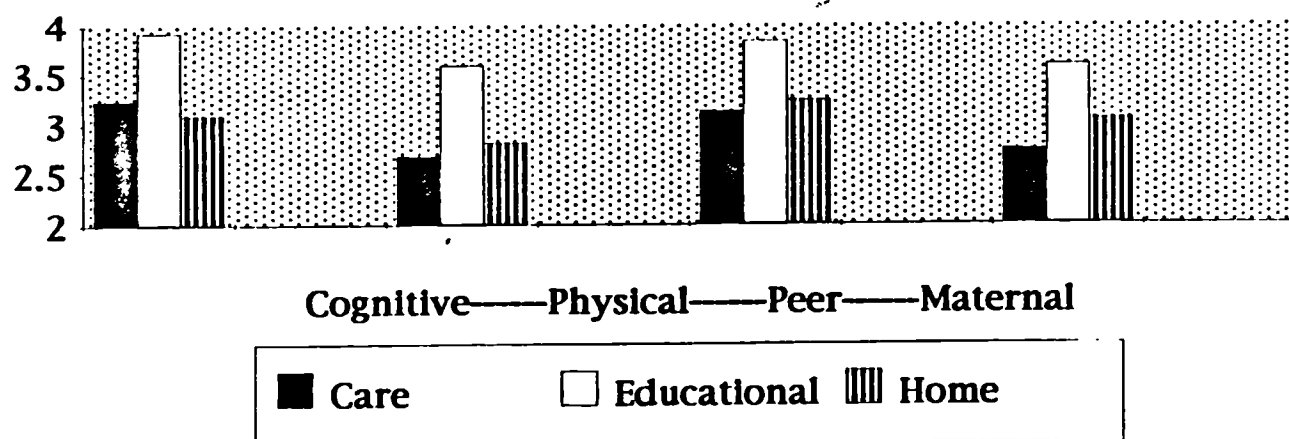
Harter found, by way of factor analysis, that two domains existed for the PSPCSA scale: the *competence domain* which included the cognitive and physical subscales, and the *acceptance domain* which included the peer and maternal subscales. When combined these subscales were compared by their means between groups.

Figure 18:

**Pretesting: PSPCSA Subscale Mean Scores\* by Group Orientation**



**Post Testing: PSPCSA Subscale Mean Scores\* by Group Orientation**



Note. Item mean scores per subscale groups were used for graphing (Harter, 1984)

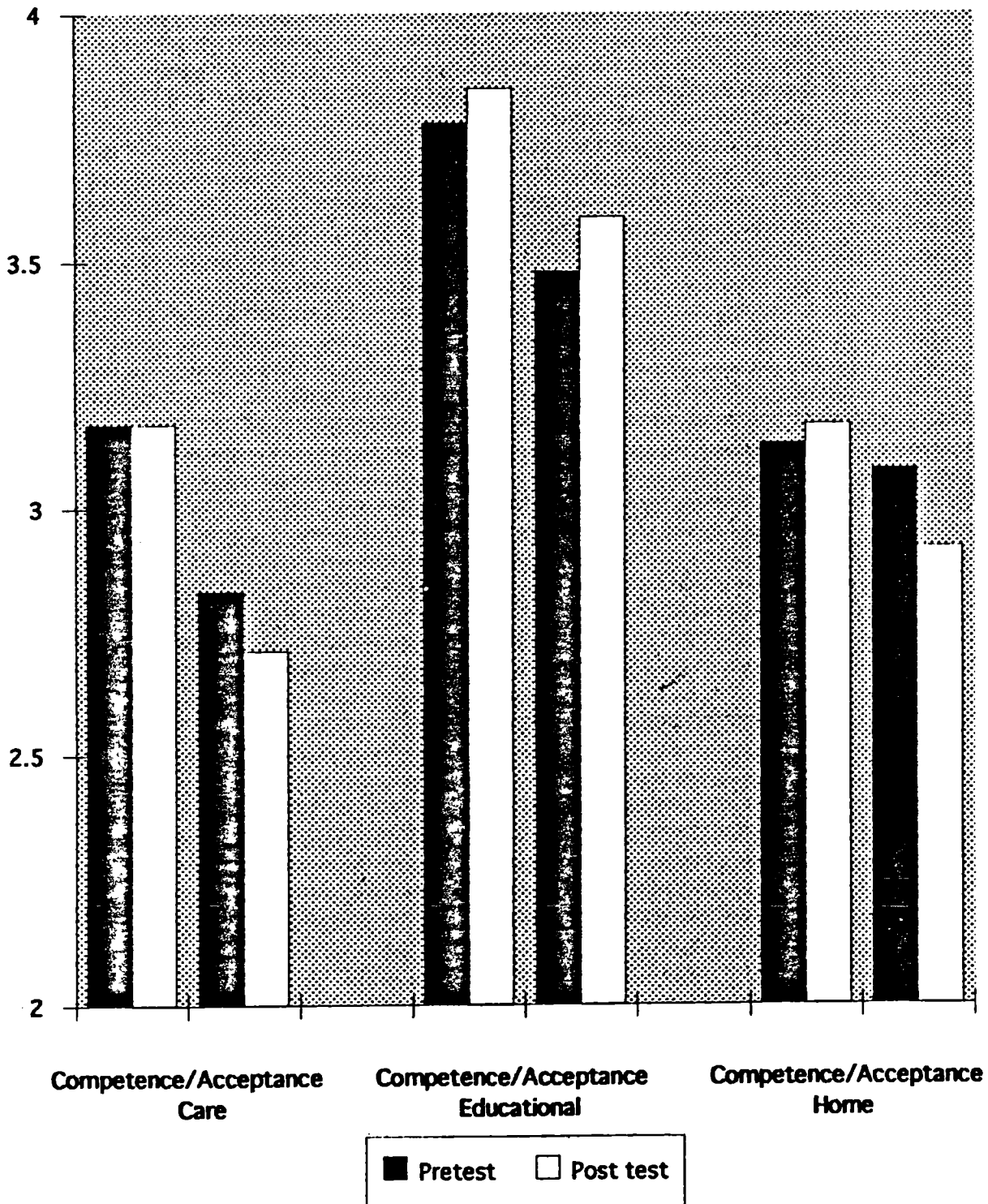
Table 40:

**Outcomes scores for Competence and Acceptance  
domains By preschool orientation**  
(mean scores and standard deviations)

	Care		Educational		Home	
	pre	post	pre	post	pre	post
<b>DOMAINS:</b>						
<b><u>Competence</u></b> <b><u>(cog &amp; phy)</u></b>						
scale mean	38.1	37.9	45.4	46.2*	37.6	37.9
st. dev.	5.6	4.9	2.8	3.8	6.2	5.5
<hr/>						
item mean a	3.17	3.17	3.78	3.85	3.13	3.17
<hr/>						
<b><u>Acceptance</u></b> <b><u>(peer &amp; maternal)</u></b>						
scale mean	34.	32.5	41.8	43.1*	37	34.9*
st. dev.	5.8	5.5	3.6	3.8	4.5	6.2
<hr/>						
item mean a	2.8	2.71	3.48	3.59	3.08	2.92
<hr/>						
a. Item mean refers to the average score of the individual items within the domain and which is used by Harter and others in analysis of results.						
*Significant @ 95%.						

When the mean scores by domain, (competence and acceptance scales) were compared between groups (Table 40) the findings reflect the similar results found in Table 39 (Figure 19). It would appear that the educational group made some improvement in scores at post testing, while the care and home groups, overall, did not make gains over time on total scores but this may not be conclusively stated until groups are analysed by regression considering several background variables.

**PSPCSA: Mean Scores\* For Competence and Acceptance Domains by Group Orientation**



Note. Item mean scores per subscale group were used for graphing (Harter, 1984)

Another analysis of variance was investigated to see the variation of group differences when considering not the subscale scores but the domain scores (competence and acceptance).

Table 41:

**Analysis of variance tables for PSPCSA domains:  
Competence and Acceptance**

**Competence domain**

Source	df.	Sum squares	Mean squares	F-test
Between groups	2	2088.657	1044.328	45.731
Within groups	132	30214.38	22.836	p=.0001
Total	134	5103.037		

Comparison	mean diff	Fisher PLSD	Scheffe F-test	Dunnett t
Group 1 vs 2	-8.257	1.983*	33.922*	8.237
Group 1 vs 3	0	2.016	0	0
Group 2 vs 3	8.257	1.983*	33.922*	8.237

**Acceptance domain**

Source	df.	Sum squares	Mean squares	F-test
Between groups	2	2829.387	1414.694	51.678
Within groups	132	3613.546	27.375	p=.0001
Total	134	6442.933		

Comparison	mean diff	Fisher PLSD	Scheffe F-test	Dunnett t
Group 1 vs 2	-10.63	2.171*	46.906*	9.686
Group 1 vs 3	-2.523	2.207*	2.557	2.262
Group 2 vs 3	8.108	2.171*	27.285*	7.387

Group 1=care	Group 2=educational	Group 3=home
--------------	---------------------	--------------

The three groups are significantly different on both domains: competence and acceptance (ANOVA). The between group analysis (post hoc tests) showed there was a significant difference for the educational group when compared with the care group and with the home group for the competence domain ( $F=1.98$ ,  $p<.001$ ). Results also showed the care and home group scoring exactly the same at post-testing. Interpreted this means the educational preschoolers significantly outscored their counterparts at care orientated preschools and at home (receiving no preschool provision) on the competence measure.

The results on the acceptance domain, also show the educational group to be significantly different than care and home. Interestingly, it shows a significant difference for the home group when compared with the care ( $F=2.21$ ,  $p<.001$ ).



Scores within groups according to sex appear to be very close (Figure 20), indicating that girls and boys in the sample do not significantly differ on perceived competencies and acceptances. Boys at educational preschools scored significantly higher than boys at care preschools and boys at home. Likewise, the same was true for the girls with significantly higher scores attributed to those girls in the educational group. In addition, girls at home also scored significantly higher than girls at care centres (post-testing). This explains the previous overall higher scores on the acceptance scale for the home group when compared with the care group. The pattern was the same for the total scores compared by gender in both domains: girls and boys at educational centres performed significantly better than boys and girls at care centres and at home.

There is very little reference in the studies by Harter regarding perceived competence and acceptance by children (under eight years old) related to gender (Harter 1982, 1983, 1986, 1988, 1991; Harter & Pike, 1984; Renick & Harter, 1989; Silon & Harter, 1985). Studies assessing older children (over eight years old) suggest gender differences in self-esteem increase with development, with consistently lower scores for females compared to males during the junior high and high school years (12-18 years) Harter, (1991).

#### 4.7.5.3 Multiple regression analysis considering explanatory variables

The above analysis does not establish any causal links between the differing types of preschool provision and the child's performance on the PSPCSA test. The question, 'Were the differences in outcomes a consequence of the differing preschool experiences?', has not been answered. A regression analysis was conducted in order to investigate further. Again, a conditional model was set up which took into account the several social and family factors (background variables) in the sample. Pre-test scores were also covaried.

Harter (1987, 1989, 1991) and her colleagues (Renick & Harter, 1989; Silon & Harter, 1985) have treated each domain with a separate analysis. It means analysing the PSPCSA with two separate assessments, i.e. a regression model for each domain, competence and acceptance. In this way it allows for an optimum consideration of the variance in each domain while investigating any interactive variable effects. Similarly, this study has analysed the two domains, separately as shown in Table 43.



**PSPCSA: Outcome Measures: Competence Scale by Gender and Group**



**PSPCSA: Outcome Measures: Acceptance Scale by Gender and Group**

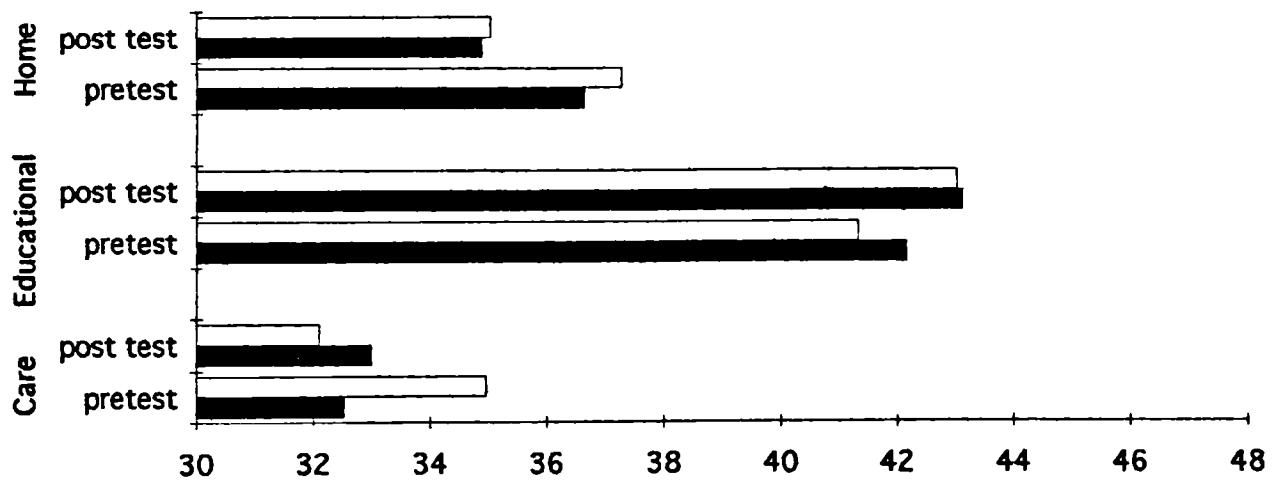


Table 43:

**Multiple regression analysis: variable effects**  
**PSPCSA outcomes**  
 (Competence & Acceptance domains)

Variables	Competence				Acceptance			
	beta	error	t	p	beta	error	t	p
age of child	.21	.09	2.33	.02	.10	.09	1.12	.27
sex*	-.66	.77	.86	.39	-.82	.82	1.0	.32
months in treatment	.09	.10	.90	.37	-.18	.11	1.69	.09
mother's age	.57	.62	.92	.36	.15	.67	.23	.82
mother's education	.06	.12	.49	.63	.05	.12	.40	.69
father occupation	.09	.22	.43	.67	.21	.23	.91	.37
Care	-1.45	1.1	1.32	.19	-.59	1.2	.49	.62
Educational	4.88	1.19	4.1	.0001	6.20	1.17	5.32	.000
Pre-test: covaried	.36	.08	4.71	.0001	.53	.09	5.99	.000
R=.74 R2=.55 F=16.93 p=.000					R=.77 R2=.59 F=20.19 p=.000			
*sex entered categorically: 0=boy; 1=girl: negative coefficient indicates higher scores for boys.								

The regression analysis shows that the age of the child had a significant effect on the competence scores ( $t=2.33$ ,  $p<.02$ ). According to Harter, younger children (referring to children of the age of this sample - under eight years old) have stronger tendencies to blur the distinction between wanting to be competent with reality, whereas with the increase of age, children tend to distinguish more clearly between the two, i.e. 'making discrete judgements about their competence in different domains . . . they have also constructed a view of their general self-worth as a person' (Harter, 1989). It may also be possible that children's judgements about their competence may be more intimately related to their appraisal of self whereas judgements about social acceptance may be influenced by others. In the light of these statements, along with the previous findings, a further investigation was carried out using the age variable interactively with the two types of preschool provision. As before, two dummy variables were created and entered into the regression model. The results showed that age did not interact with the care treatment (Age x Care:  $t=.79$ ,  $p<.43$ ) yet it appears it had a significant effect on the children in the educational group (Age x Educational:  $t=2.8$ ,  $p<.005$ ). Again, the assessment by previous research suggests that there is a tendency for younger children (3-4 years) to blur the wish to be competent with the reality, which was often observed during the administration of this test. Then, again, it may be that as children get older (5-6 years) they are more critical of their abilities and consequently report them more accurately to adults than younger children (Stipek, 1984). For example, children at home (youngest children in total sample) tended to overrate their physical competencies (Table

38) often stating excellent prowess and agility at climbing and swinging when, in fact, not a single home had swings, slides or climbing apparatus (nor were there parks, recreation centres, etc. with such facilities available for their use). After the assessment when mothers were taken aside and asked if the child had use of such facilities, all mothers insisted it was purely wishful thinking on the part of the child.

None of the other explanatory background variables significantly contributed to the child's performance at preschool. A more appropriate concise model is presented which takes into account only those factors which related to performance (Table 44).

#### 4.7.5.4 Concise regression models for both domains: Competence & Acceptance

Table 44:

**Concise regression model for Competence domain**  
(considering explanatory variable effects of age and educational provision on outcomes)

Variables	Beta	Error of B	t	p
Age of child	.18	.08	2.28	.02
Educational	5.8	.97	6.03	.0001
Pre-test Scores	.36	.08	4.80	.0001
Intercept=15.33   R=.73   R2=.53   F=50.04   p=.0001				

Table 45:

**Concise regression model for Acceptance domain**  
(considering explanatory variable effects of educational provision on outcome measures)

Variables	Beta	Error of B	t	p
Educational	5.87	.97	6.05	.0001
Pre-test scores	.57	.08	6.88	.0001
Intercept=13.42   R=.76   R2=.57   F=87.96   p=.0001				

The reduced, more concise models indicate that the children attending educational preschools perform significantly better on measures of competence and acceptance when compared with children at care centres and children at home. They also made significant improvement over the interval of time between

pre- and post-testing when compared with children at home. The significant finding for age ( $\beta=.18$ ,  $p<.02$ ) accounted for 1.5% of the variance on the competence scale and would suggest a positive correlation with the age of child and his/her perceived competence on tasks related to cognitive and physical abilities.

Having carefully controlled at entry and accounted for the background variables, the above models provide evidence which demonstrate that higher outcome scores are associated with differential preschool effects.

#### 4.7.5.5 Within-groups analysis: Differences of preschools within each orientation

The final procedure of analysis investigates the comparison of preschools within each orientation. Were all preschools within each group (four in each group) behaving in a similar way with respects to outcome measures? Were they acting differently? As in previous analyses, each preschool within an orientation was assigned a dummy variable and fitted into a regression model along with pre-test scores to investigate effects, if any, on outcomes.

The results of the analysis for the care preschools on both the scales, showed no significant differences between the four preschools (competence: c2,  $t=1.9$ ,  $p<.07$ ; c3,  $t=.39$ ,  $p<.70$ ; c4,  $t=.90$ ,  $p<.37$ ; acceptance: c2,  $t=.64$ ,  $p<.53$ ; c3,  $t=1.5$ ,  $p<.14$ ; c4,  $t=.11$ ,  $p<.92$ ). The educationally orientated preschools did not show significant differences on the acceptance outcomes (e1,  $t=1.8$ ,  $p<.09$ ; e2,  $t=1.1$ ,  $p<.26$ ; e3,  $t=.85$ ,  $p<.40$ ). With regard to the competence scale outcomes, there was one preschool (e1) with a reported significant finding,  $t=2.01$ ,  $p<0.05$ . When investigated further, the variance on this particular school was considerably higher than the others (shown in st. dev. e1=7.05; e2=1.31; e3=1.33). A frequency distribution for preschool, e1, showed that one outlying score accounted for the asymmetrical distribution. When this one anomaly was adjusted, the variation between scores was similar to the other educational preschools indicating no significant differences between preschools on the competence scale (competence: e1,  $t=.140$ ,  $p<.17$ ; e2,  $t=.13$ ,  $p<.90$ ; e3,  $t=.47$ ,  $p<.64$ ).

#### **4.7.6 Differences between groups by individual items on the PSPCSA: Item analysis**

Further investigation showed the differences between groups, according to mean scores on each individual item within a subscale. According to the findings in Table 46, the children at the educationally orientated preschools maintained higher scores on the majority of items when compared to the children at care preschools and at home. All three groups made gains in the cognitive subscale, while the care and home groups showed the least improvement on the peer subscale. For Item 6: Stays overnight with friends, children from home were believed to have interpreted 'friends' to mean relatives whereas, children at care preschools understood the word 'friend' to mean primarily classmates. This may have accounted for the higher mean scores for the home group when compared with the care group for this item. Overall, children at home significantly outscored their counterparts at care orientated preschools on the acceptance scale (Table 41).

The home group scored higher than the care group on several items in the physical subscale. For example, on Item 3: Good at swinging children at home responded that they were good at this task despite the fact that not a single swing was noticed in the home sample (or surrounding neighbourhoods). According to Harter, this response (mean average for home group) would confirm the contention that younger children often confuse the wish to be competent with reality (Harter & Pike, 1984). Children in the home group also saw themselves as good runners indicated by the higher mean scores when compared with the children in the care group.

Table 46: Mean Scores, Standard Deviations and Mean Differences For Individual Item On PSPCSA

	Care						Educational						Home					
	pre			post			pre			post			pre			post		
	x	sd	md	x	sd	md	x	sd	md	x	sd	md	x	sd	md	x	sd	md
<b>Competence Scale : Cognitive</b>																		
1. Good at puzzles	3.17	.99	2.96	1.09	-.21		3.63	.79	4.53	4.26	.9		3.25	1.20	3.11	1.35	-.14	
5. Gets stars on paper	3.15	1.05	3.27	.97	.12		3.83	.56	3.89	.43	.05		3.09	1.24	3.21	1.17	.12	
9. Knows names, colours	3.10	1.15	3.32	.86	.22		3.67	.75	3.92	.41	.25		3.43	.97	3.36	1.10	-.07	
13. Good at counting	3.15	1.07	3.30	.90	.15		3.92	.40	4	.0	.08		2.73	1.26	3.02	1.23	.29	
17. Knows alphabet	3.04	1.09	3.34	.71	.30		3.81	.57	3.98	.15	.17		2.81	1.14	3	1.22	.19	
21. Knows first letter of name	3.25	.96	3.25	.87	0		3.79	.62	3.87	.45	.08		3.07	1.13	2.84	1.28	-.23	
<b>Physical</b>																		
3. Good at swinging	3.13	1.08	2.73	1.26	-.40		3.67	.75	3.81	.58	.14		3.27	1.09	3.23	1.24	-.03	
7. Good at climbing	3.85	4.47	3.87	4.59	.02		3.75	.67	3.94	.32	.19		3.32	1.18	3.43	1.04	.11	
11. Can tie shoes	3.06	1.14	2.96	1.12	-.10		3.71	.71	3.66	.76	-.05		3.16	1.12	2.88	1.26	-.28	
15. Good at skipping	3.47	.93	3.41	.92	-.06		3.83	.56	3.87	.49	.04		3.48	.98	3.23	1.24	-.25	
19. Good at running	3.06	1.11	3.07	1.04	.01		3.85	.51	3.87	.45	.02		3.11	1.17	3.3	1.13	.19	
23. Good at hopping	3.35	.93	3.36	.87	.01		3.96	.29	3.92	.41	.04		3.46	1.11	3.23	1.25	-.23	
<b>Acceptance Scale: Peers</b>																		
2. Has lots of friends	2.98	1.13	2.75	1.16	-.23		3.54	.85	3.81	.54	.27		3.36	1.12	3.18	1.26	-.18	
6. Stays over at friends	2.08	1.22	1.89	1.08	-.19		2.94	1.04	3.19	.99	.25		2.61	1.33	2.46	1.41	-.15	
10. Has friends to play games with	3.17	1.15	3.14	1.03	-.03		3.58	.82	3.64	.76	.06		3.5	1	2.80	1.34	-.25	
14. Friends on playground	3.13	1.12	3.16	1.01	.03		3.73	.68	3.79	.62	.06		3.21	1.09	3.05	1.26	-.16	
18. Gets asked to play	3.13	1.10	3.07	1.14	-.06		3.79	.62	3.83	.56	.04		3.14	1.17	3.05	1.29	-.09	
22. Eats dinner at friends	1.92	1.13	2.09	1.14	.17		3.08	1.01	3.32	.91	.24		2.27	1.23	2.11	1.33	-.16	
<b>Maternal</b>																		
4. Mom smiles	3.	1.09	2.68	1.18	-.32		3.71	.71	3.72	.68	.01		2.91	1.24	2.82	1.40	-.09	
8. Mom takes you out	3.21	1.07	3.25	.94	.04		3.60	.79	3.81	.58	.21		3.36	1.04	3.25	1.16	-.11	
12. Mom cooks favorites	2.94	1.17	3.14	4.78	.20		3.52	.85	3.64	.76	.12		3.45	.99	3.02	1.25	-.43	
16. Mom read to you	2.60	1.25	2.27	1.21	-.33		3.15	.99	3.49	.80	.34		2.71	1.32	3.18	1.17	.47	
20. Mom play with you	2.77	1.17	2.46	1.17	-.31		3.46	.90	3.40	.90	-.06		2.66	1.12	2.82	1.28	.16	
24. Mom talks to you	3.02	1.19	3.07	.99	.05		3.63	.79	3.51	.86	-.12		3.07	1.23	3.16	1.18	.09	

#### **4.7.7 The PSPCSA correlated with other instruments used to assess aspects of child development**

It is often the procedure for analysis when using several measurements of child development to correlate their outcomes in order to examine the strengths (and weaknesses) of relationships. For this study, the following instruments were correlated with the results on the PSPCSA subscale scores (Table 47) and the scores by domain - competence and acceptance (Table 48): Stanford-Binet Intelligence Test (SB); WPPSI Arithmetic Subtest (WPPSI-A); WPPSI Block Design (WPPSI-BD); Draw-A-Person (DAP); PBCL-total scores and PBCL scores >12 (cut-off point, indicating children with definite behavioural problems).

The negative correlation coefficients recorded for the PBCL measures indicates an expected relationship between perceived self-worth (PSPCSA) and behavioural and emotional problems in young children (PBCL), i.e. as one increases the other decreases (monotonic). Put clearly, the higher the score on the PSPCSA, the lower the PBCL score, which means a lesser prevalence of behavioural and emotional problems.

Generally, the correlations increased between variables over time (at post-testing) taking into account the small sample attrition. The stronger relationships appeared when the combined subscale categories (competence and acceptance scales) were correlated with the Block Design test (WPPSI) and the Stanford-Binet. Often, assessments of self-worth, self-concept, self-esteem are strongly related to measures of cognition (Harter, 1991; Bekman, 1991; Tizard et al., 1988; Dweck & Leggett, 1988).

**Table 47:** PSPCSA Subscale Scores Correlated With SB; WPPSI-A; WPPSI-BD; DAP; PBCL-T; PBCL >12

	<u>SB</u>		<u>WPPSI-A</u>		<u>WPPSI-BD</u>		<u>DAP</u>		<u>PBCL-T</u>		<u>PBCL&gt;12</u>	
	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post
<u>Cognitive</u>	.46	-.60	.23	.49	.38	.55	.20	.40	-.12	-.27	-.19	-.20
<u>Physical</u>	.40	.54	.36	.46	.42	.54	.32	.22	-.23	-.49	-.13	-.05
<u>Peer</u>	.34	.48	.30	.40	.34	.53	.06	.22	-.22	-.36	-.04	-.25
<u>Maternal</u>	.46	.51	.35	.44	.30	.54	.31	.32	-.12	-.38	-.05	.17

**Table 48:** PSPCSA, Competence and Acceptance Scores Correlated with SB; WPPSI-A; WPPSI-BD; DAP; PBCL-T; PBCL >12

	<u>SB</u>		<u>WPPSI-A</u>		<u>WPPSI-BD</u>		<u>DAP</u>		<u>PBCL-T</u>		<u>PBCL&gt;12</u>	
	pre	post	pre	post	pre	post	pre	post	pre	post	pre	post
<u>Competence</u>	.45	.56	.30	.48	.41	.57	.15	.31	-.19	-.29	-.13	-.13
<u>Acceptance</u>	.51	.59	.42	.51	.43	.61	.38	.32	-.20	-.47	-.08	.06*

\*small sample size (n=16)



#### **4.7.8 PSPCSA: Summary**

The PSPCSA appears to have discriminated clearly between the three given group orientations (care, educational and home). It has successfully measured childrens' perceptions of competence and social acceptance in three independent pre-school settings (care, educational and home).

For all groups, the results showed higher outcomes for the competence subscale when compared with the acceptance subscale. This pattern, as Harter and Pike (1984) point out appears because judgements about one's competence may be more intimately related to one's appraisal of self, in contrast to judgements about social acceptance, which may be influenced by others. It may also be that the lower scores on the social acceptance scale reflect the tendency of young children this age to be more critical of others, than of themselves (Stipek, 1981). The analysis of variance which focused on main effects indicated significant differences between group scores (competence:  $F=45.73$ ,  $p<.000$ ; acceptance,  $F=51.68$ ,  $p<.000$ ) with significance accounted for by the educational group when compared with care and home (post hoc analysis of variance, Table 41).

When regression analysis was applied, considering several explanatory variables and pre-test scores (covaried), results showed children at the educational preschools had significantly higher competence and acceptance scores when compared with children at care orientated preschools and home. Furthermore, the educational group made significant gains in outcome scores over the interval of time from pre- to post-testing when compared with the other groups. The concise regression models (competence and acceptance scales), indicated age as a factor significantly related to outcomes on the competence scale.

The next level of analysis dealt with the investigation of individual preschools within each orientation: care and educational. It was important to consider whether all preschools were behaving similarly in regards to outcomes within each orientation. A similar regression analysis model was performed which indicated no significant differences between the care preschools on both the competence and acceptance scales. Educationally orientated centres all behaved similarly on both competence and acceptance scales, with a single anomaly (one score in competence domain) that was statistically adjusted for in the analysis.

The last section of analysis looked at the differences between groups, by individual items on the PSPCSA. The higher scores and the improvement of scores over time, were attributed to the educational group. Children at home, care orientated centres outscored children at care centres on on items pertaining to acceptance--peer acceptance and maternal acceptance but failed to make any gains over time in this domain. They also did better than care children on a number of items in the physical subscale.

## **Chapter Five**

### **Discussion 1:**

**Evaluation, interpretation, and implications  
on results from child outcome measures**

## Chapter Five

### Discussion 1:

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## Chapter Five

### Discussion 1:

#### 5.0 Evaluation, interpretation and implications from results on child outcome measures

##### 5.1 Introduction:

This discussion section will interpret and qualify the results with respect to the original hypotheses (Chapter 2, section 2.5). Two of three hypotheses will be addressed in this section. They are expressed in their predictive form.

- 1) It was predicted that children in both the educationally orientated preschools and the care orientated preschools would have higher outcome scores on developmental measures when compared with those children at home.
- 2) It was predicted that the children attending educationally orientated preschools would have higher scores on developmental measures when compared with those children attending care orientated preschools.

Two dynamic comparative questions are considered regarding preschool treatment effects i.e. "Is attendance at preschool centres associated with higher performance on aspects of development when compared to a home group? and Does attendance at educationally-orientated preschools improve the child's performance when compared to children attending a care orientated preschool?" Both questions aim to go beyond describing differences between groups. The goal is to try to explain the changes that have occurred between the groups, that is, "to reach a causal understanding of change" (Plewis, 1985, p.13).

For this quasi-experimental study, a conditional regression model was considered the most appropriate in that it enabled the researcher to investigate the difference between groups and their relative change (progress) over time. Whereas groups are randomly assigned in an experimental study, for the quasi-experimental design intact groups are used which inevitably pose the potential problem of controlling for variable effects. This is where the conditional model is important in that it takes into account variable differences of the groups and controls for them, statistically. In a sense, it's a way of correcting for differences that would have been controlled in a random sample. An excellent example of a strong randomised design, was the High/Scope Perry Preschool Project (Schweinhart et al., 1993). In this longitudinal study of 123 preschool children followed through to adulthood, the researchers successfully showed that

preschool treatment effects were long lasting in terms of 'life skills,' e.g. stability factors in career, social functioning, and family life.

Some studies, designed with less rigorous sampling procedures, have had the difficulty of safely demonstrating clear causal effects associated with preschool attendance. These studies have been discussed and explained in several reviews, some of which have been mentioned in the review of the literature (Ball, 1994; Clark, 1988; Lazar et al., 1982; McKey et al., 1985; Meisels & Shonkoff, 1990; Osborn & Milbank, 1987; Rutter, 1983; Singer, 1992; Sylva, 1990, 1993; 1994; Travers & Light, 1973; Woodhead, 1985; Woodhead et al., 1991; Zigler & Styfco, 1993).

Most research, either due to lack of political will and/or economic restraints, has not had the luxury of random samples or following children for decades into adulthood. As a result, findings (outcomes) are often attributed to 'something else', meaning features within or beyond the preschool parameters (Rutter, 1983, p.11). However, while most would conclude that the experimental-randomised design offers a more rigorous framework for assessment, it is often not feasible nor practical. Instead, predictive, causal experimental change (outcomes) are investigated within a framework that considers intact groups, which is the case for this study.

## **5.2 Interpreting the results:**

The evidence in this study is clear; children attending educationally-orientated preschools had significantly higher performance measures when compared with children attending care orientated preschools and children at home (Table 49). Although, these outcome measures represent only a mere fraction of the wide and varied aspects of child development, there appears to be a definite and consistent pattern of significant findings, on measure after measure, reported for the children at educational centres (Figure 21).

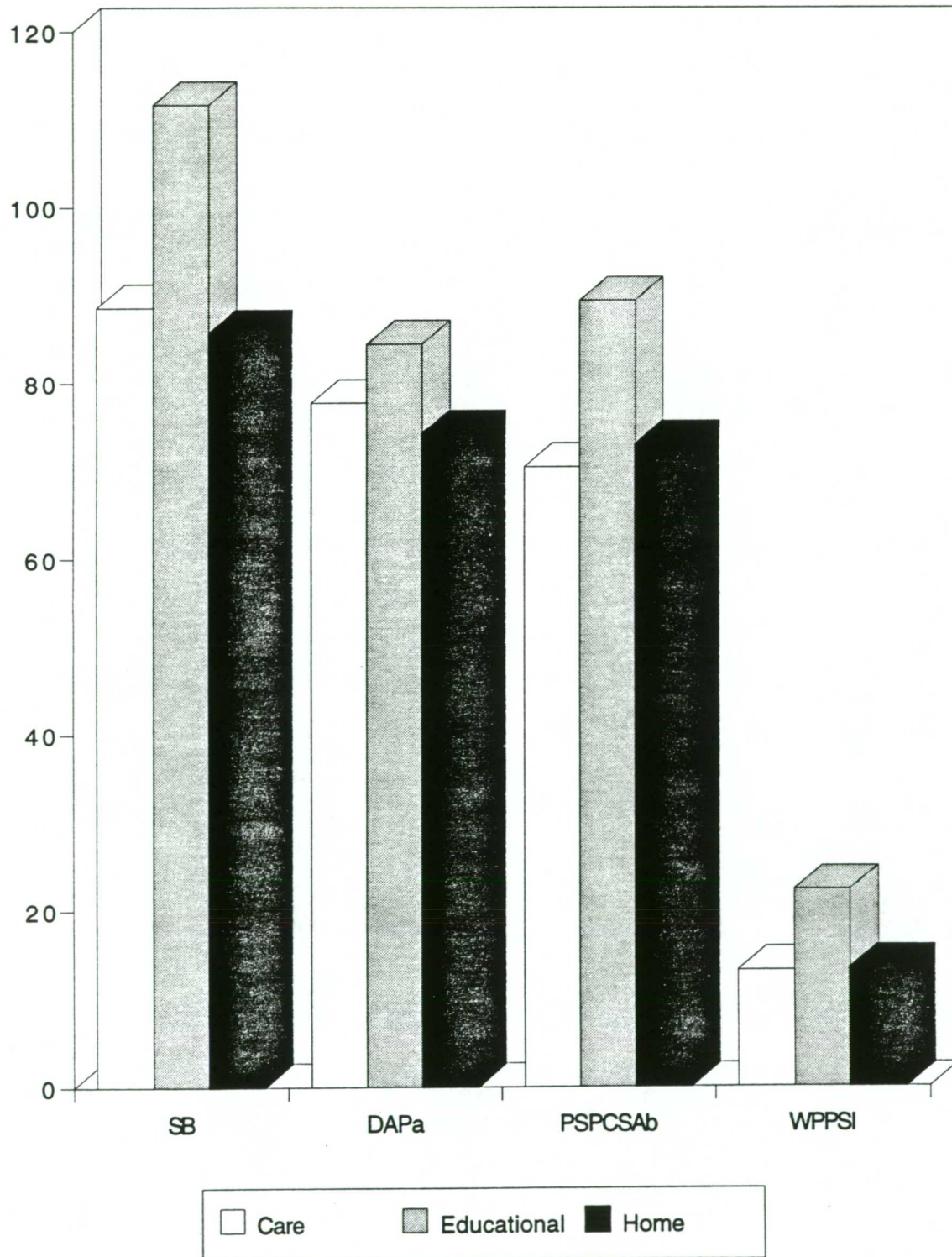
Table 49:

**Outcome measures (means) for assessments on children's  
development (SB; WPPSI; DAP; PSPCSA & PBCL)**

	Care	Educational	Home
<b>Stanford-Binet</b>	88.5	111.7***	85.5
<b>WPPSI</b>	13.1	22.3***	13.2
<b>Draw-A-Person</b>	233.2	253.2**	222.2
<b>PSPCSA</b>			
<b>Competence</b>	37.9	46.2***	37.9
<b>Acceptance</b>	32.5	43.1***	34.9
<b>PBCL</b>	9.5	5.2**	
<b>Prevalence rates</b>	36.4%	0%	
<p>Note. Scores are mean values at post testing. For the SB, WPPSI and DAP, mean scores are based on totalled scores, e.g. Drawings 1,2 +3 for DAP; combined totals for Arithmetic &amp; Block Design subtests for WPPSI; and combined totals for Verbal and Performance Tasks on SB. Higher scores on PBCL indicate higher incidence of possible behavioural problems. For further details and clarification of analysis, see Chapter 4, Methods &amp; Results.</p> <p>**p&lt;.00; ***p&lt;.000. Significant values are based on results from concise regression analysis after considering variable factors entered into the equation.</p>			

The first three measures in Table 49 are primarily measures of cognitive function, i.e. SB, WPPSI and DAP. Along with several other psychometric types of measures, they have been universally employed as key criteria in the research mentioned on preschool effectiveness. As Woodhead claims "they [psychometric tests] have the advantage of being widely available and linked to an extensive scientific literature" (Woodhead, 1985, p.137). It was of particular importance for this study that these instruments had all been previously adapted and used in an Arab cultural context with some degree of confidence (reliabilities were similar to those studies based in English-speaking countries). Furthermore, their familiarity in the region was considered a distinct advantage in terms of future considerations and implications from this study, e.g. policy decision on preschool provision and teacher training in Bahrain.

**Profile of Children's Outcomes in Three Preschool Groups (Care, Educational & Home)**



Note: scores are mean values at post testing  
a. mean scores for three drawings  
b. mean scores for total scores



It may be argued that IQ assessments, in general, do not assess other salient features of ability and knowledge, such as school competence, life-adjustment skills, copying abilities, and so on (Rutter, 1985; Schweinhart et al., 1993). In part, these limitations were addressed by including other assessments of development (social and emotional) thus, constituting an overall profile of aspects on development, and not a single domain or construct, e.g. PSPCSA and the PBCL.

The other feature of IQ tests which often receives considerable attention is the instrument's cultural-adaptability. For this study, all items were back-translated from colloquial dialects into classical Arabic. This was done to ensure a consistent and grammatically correct form of Arabic for administering the tests. Furthermore, all volunteers (paid) understood and used several different Arabic dialects which meant that items were administered accurately (in the appropriate tongue) and responses (from children) were clearly understood. Equally important and fortunate for this study, was the fact that all volunteers had extensive backgrounds in working with families and children from social service agencies in Bahrain. This was extremely helpful, not only in terms of potential language problems (there are numerous Arabic dialects spoken in the country), but also in terms of understanding different religious backgrounds (Islam has many religious sects, despite the fact that all are Muslims).

Looking more closely at the results from the instruments used to measure cognitive function, there were some unexpected findings. For example, the Stanford-Binet test showed an effect by gender, with boys having significantly higher scores than the girls (.007; Table 18). Previous research has shown that girls usually perform better. This may be partly explained by the high number of verbal communication items on the test, on which girls tend to do well (Terman et al., 1961; Abu Alam, 1989; Faraj, 1986). While inconclusive, there are several possible explanations offered for why boys did better. Culturally, males are considered superior and are favoured in most aspects of social and family life. While unfounded scientifically, there is some empirical evidence to support the belief that boys are treated with favouritism. Previous research in Bahrain has shown that there are differential expectations by teachers and parents according to gender (Al-Fadhel, 1986). It may well be that there exists different learning strategies for the different genders in Bahrain, as Dweck and Leggett (1988) suggest (Hagglund, 1991; Rutter, 1985).

To a lesser extent, the direction of scores indicated that boys tended to have higher scores on the Block Design subtest from WPPSI, while girls tended to do better on the Arithmetic subtest, although not significant (Table 23). The Block Design deals with spatial conceptual skills and children must replicate geometric formations with plane block squares. For the Arithmetic subtest the items dealt with discrimination of size, counting and verbal addition/subtraction problems. As Whyte (1983) suggests there may well be a hidden curriculum which reinforces traditional sex-role stereotypes and exacerbates the polarisation of the sexes. This would explain to some extent the directional tendency of scores where boys tend to do better on spatial ability and mathematical tasks while girls tend to do better on tasks of verbal ability. Many would agree that the roots of gender differences begin at home (Rheingold & Cook, 1975; McGuire & Richman, 1986b; Wells cited in Donaldson et al., 1988) which could also offer some explanation for the sex differences found in these results. There appear to be a host of possible reasons why gender differences occurred, but none of them can be substantiated because there were no specific questions regarding sex addressed in this study, such as, parental childrearing practices on outcome measures by gender, the effects of family relations on children's performance measures by gender, etc.

Of the two subtests measured, preschool effects were more pronounced on the Arithmetic results than the Block Design, indicating that children at preschools did better on counting and verbal mathematical tasks than on spatial ability tasks when compared with children at home. One explanation may be that children at home had few toys available to them, least of all manipulative tasks similar to those used in the subtest (FBQ, section 3.1.3). On a regular basis, though, they did have money to purchase sweets from the local stores which could have meant they had some practice in counting that would have in turn, explained their higher scores at pre-testing. Nine months later at post-testing, when task items measured verbal comprehension of simple addition and subtraction problems, they had some difficulty as the scores at post-testing indicated. Children at educational centres had freer access and a wider variety of manipulative toys available to them (ECERS, Table 53). Teachers at educational centres were more inclined to allow the use of 'educational' toys when the child requested them than teachers at care centres (TQ, section 3.2.4). The combination of these factors would suggest that children, overall, involved in active learning of their choosing therefore performed better than the children at care centres and at home.

The other intelligence measure, Draw-A-Person test, showed positive and significant preschool effects for the children in educational settings. While scores

were substantially higher for this treatment group, the findings are somewhat complex to interpret. According to its authors, the DAP measures conceptual maturity which is based on the child's ability to perceive, discriminate, differentiate, abstract and generalise. Normally age plays an important role in quantifying results and previous research findings suggest that conceptual maturity correlates highly with age. The results from this study suggest the opposite--as children get older, scores decrease. Unquestionably, this occurrence was due to confounding religious factors which influenced the children's performance on the drawing tests. To explain, teachers at both preschool settings, actually discouraged children from drawing human figures claiming that it was religiously out of step with teaching practices (flowers, trees, etc. were permissible). While some children acted as if they were unaware of the problem, others were clearly influenced by the teacher's (and parent's) beliefs. At post-testing children's scores dropped in all three groups which would account for the negative correlation with age.

The large differences found between children's drawings at home and preschool centres may be attributed to the lack of writing provision offered in the homes. It was observed that few home environments provided pencils, paper, colours or writing provisions for children. There was also little evidence of child-size furnishings such as tables, chairs, desks, etc. in the homes. It was assumed that most mothers expected these activities to be related with 'school life' and saw them as additional expenses that were not necessarily essential for children at home. If we assume that reading is related to writing and drawing, then there may be some reason to believe that differences were accounted for in the evidence that showed mothers at preschools read and told stories significantly more often than mothers at home (FBQ, section 3.1.5).

While important, it is difficult to assess with any decisiveness what exactly mothers did feel about their child-rearing practices or themselves, for that matter. This study did not focus on the mother's role as caregiver, educator, or professional. Further research is needed in order to better understand parent-child relationships and their effects, if any, on children's performance.

Clearer indications for differential effects on outcomes suggest that it is preschool factors which play the decisive role in determining children's performance on drawing tasks, particularly management practices and teacher's styles and attitudes (orientation of centre). The evidence showed that the more rigid structured environments with adult-directed teaching produced less favourable conditions than the active-child learning approach.

A further dimension of children's drawings, based more on theoretical concerns, looks at the universality of the forms of children's art which is an important consideration in the cultural sense. This line of thought suggests we have been too literal in our interpretation and understanding of children's drawings, i.e. seeing them as reflecting different cognitive levels according to age factors. What is called for is an understanding that views the child's thinking as embedded in the cultural context of which actions take place, thereby producing representations that differ fundamentally from one culture to the next (Wales, *Children's Pictures*, chap. 8, Grieve & Hughes, 1990). In some village cultures, children represent people with semi-circles; lines as interactive behaviours; and scribbles as action. Drawings suggest more than literal copies of what actually exists - they take on elements that represent entire situations or events. Therefore, the apparent parameters of drawing (physical, cognitive and cultural) that enter into the way in which a child constructs and interprets a drawing at a given time needs to be tempered with great caution when we interpret children's drawings.

In light of the findings found in this investigation where preschool children were found to have an advantage (especially those in educational-type environments) over children at home, cultural factors may be differently mediated in different settings. Plausible, yet not demonstrated, it may be that children draw differently in different situations. If so, then there would be serious questions raised regarding the notion of assessing 'conceptual maturity' and the decisive role cultural factors play in children's drawings. Further investigations, considering factors at home and at varying preschool settings, are needed in order to draw any conclusive findings.

So far only psychometric IQ measures have been discussed. The strength of the preschool effects on children in varying settings does not rest solely on these positive findings alone. Rather, it is the profile of assessments on several aspects of development that constitute the impact of effectiveness. This profile includes two further outcomes: one assessing the child's perceived social competence and acceptance (PSPCSA); and the other which measures (screens) identifiable behavioural/emotional problems in children at preschool settings (PBCL).

In a recent report on the importance of early learning, self-esteem and socialisation were cited as the most important components for successful learning, that is, "they lie at the heart of early-learning curriculum" (Ball, 1994, p.20). No longer do teacher's professional profiles depend on the mastery of

subject matter. Learning how to learn, better known as the 'art of learning', has been incorporated which includes attitudes, motivation, socialisation and confidence. These are considered the essential and sustaining aspects of successful learning. It was in this vein that the PSPCSA was chosen to assess children's perceived competence and social acceptance with the three groups of children. The aim was to see if children in different settings do, in fact, perceive their abilities (competence and social acceptance) differently.

It seems evident from the research that high levels of self-concept are linked to long lasting social benefits. Furthermore, high quality preschool learning seems to provide the optimum conditions for cultivating high levels of self-concept (Andersson, 1989; Clement et al., 1984; Field, 1991; Kagitcibasi et al., 1988; Schweinhart et al., 1993; Sylva, 1994). For this study, the results showed that children's scores, measured in two domains, competence and acceptance, do discriminate between different group settings (care, educational and home). Children at educationally-orientated preschools perceive themselves as more competent (cognitive and physical tasks) and socially acceptable (with peers and their mothers) than children at care preschools and children at home. The higher scores on competence measures (N=140) suggest that children's judgements about competence may be more intimately related to self-appraisal, whereas the judgements regarding social acceptance may be influenced more by others (Harter, 1989; Butler, 1989; McClintock & Moskowitz, 1976). In line with previous research, age was shown to be a significant factor influencing competence scores. This would support the previously held belief that as children get older, the structure of self becomes more differentiated, meaning there is less likelihood of inflated scores owed to fantasies about the ideal self. Of particular concern and least evident in the research, is the lack of evidence which actually pin-points a definitive age when children accurately assess their abilities realistically, discarding fantasy notions of ideal self. Harter claims children blur the distinction between their actual abilities (competence and acceptance) with wishful thinking until eight years old (Harter & Pike, 1984). Butler (1990) claims that children much younger, at around five years, have accurately demonstrated the ability to distinguish between wishful and actual ability. While most agree that within this age span, five to eight years, children do develop a more accurate assessment of their abilities, it would be important to know if a more specific age distinction exists. This research in Bahrain suggests that the distinction is amenable to intervention in the age range 4-6.

Another consideration of the PSPCSA scale worthy of mention is the scale's restriction to school competencies, peer social relationships and physical

competence measures in sports, all of which children at home are less familiar than preschool attenders. According to Harter, "the scale does not tap competencies outside the school, social relationships with adults or the type of physical skills required to do crafts, build and fix things and so on" (1982, p. 96). This is interesting because it may explain, in part, why children at home showed lower scores on competency measures. It also, lends support to the argument that preschool environments are more appropriately equipped for enhancing self esteem which underpins higher cognitive outcomes for children. However, children at home scored significantly higher on maternal acceptance ( $p < .05$ ; Table 39). When comparing the same measure (maternal subscale) between the educational group and the home group, the opposite was true i.e. higher scores ( $p < .001$ ) for the educational group children. When considering the first comparison, care vs home groups, this occurrence could be owed to two factors: children at home scored better than children at care because they were significantly younger ( $F=10.7$ ,  $p < .001$ ) than care children and therefore had a tendency to inflate their answers. Also, there may have been the possibility that children at home had less exposure/experience with surrogate caretakers (adults) outside the immediate family circle which may have constituted a stronger dependence on the mother. Both explanations seem weak in view of the second finding where the comparison between the educational group is made with the home group. Here, the educational and home group did not significantly differ by age, yet the children performed significantly better at educational settings. What seems to be suggested by these findings is that there are two types of provisions, that when compared separately (with the home group) produce outcomes that represent qualitative differences in preschool practice. Where quality (facilities, staff, environment, interaction) is low, as witnessed in the care centres, self-concept/esteem measures are low in children. It is often difficult to distinguish advantages and disadvantages between children who attend poor quality centres and children who stay at home (Ball, 1994; Clarke-Stewart, 1989; Osborn & Milbank, 1987; Zigler & Hall, 1988). In contrast, when preschool quality is of a high standard (or comparatively higher standard such as shown in the educational settings compared with the care centres in this study) the effects are more pronounced and long lasting (Ball, 1994).

The significant preschool effects for the children at the educational centres showed their self-esteem (confidence) improved with time. This may be explained by a combination of factors from home and school. When we compared several home factors with the children attending the two preschool groups (care and educational) and children at home, it was noted significantly more mothers worked ( $p < .000$ ), found more time to play ( $p < .01$ ) and read to their

children ( $p < .01$ ), and saw their children as better behaved when compared with mothers at home (Table 6, Family Background Questionnaire). Also, they (educational mothers) were better educated ( $p < .01$ ) than mothers at home. When these same factors were compared between preschools, care vs educational, there were no significant differences noted. As a result, when entered into further analysis (regression, controlling for group differences) these variable home factors were not causally linked to outcome measures. In other words, although there were significant differences found between preschool attenders versus non-attenders in terms of some home practices, there were no differences between scores of children in the two types of preschools. The bulk of the variance explained, after adjustment for pre-test scores, was attributed to the conditions of the educational preschool settings, e.g. staffing ratios, active-learning practices, child-orientation, personal teacher interaction, organisation and planning, and favourable working conditions (descriptors of the Teacher's Questionnaire and results of environmental assessments - ECERS).

The final measure to complete the profile of child outcomes addresses the prevalence of behavioural/emotional problems identified in the two types of preschool settings. To assess behavioural problems a checklist of several items associated with behaviour was completed by the teachers (PBCL).

The reported overall prevalence rates (18.8% at pre-testing and 17.6% at post testing) from this study compared closely with other research in the region which used Arabic-speaking samples (20%: Al-Jasser, 1990). Higher rates, using larger samples, were reported in studies carried out in Turkey (29.2%: Kapci, 1990) and India (23.4%: Singh, 1991). As Rutter suggests, the variation of prevalence rates reflect the strong cultural-bound context of the checklist's ability to screen behavioural problems in epidemiological research (1970). Most researchers who have constructed behavioural checklists (Behar & Stringfield, 1974; Rutter, 1967; Achenbach & Edelbrock, 1978; McGuire & Richman, 1986) have cautioned their use and have strongly suggested that they be used in collaboration with other instruments (Colmar, 1988).

Again, the results showed that children at educationally-orientated centres demonstrated significantly lower scores (fewer identified problems) than their counterparts at care centres (Table 33). The interpretation of these findings is not straightforward. When three teacher variables (teacher educational level, years of teaching, and teacher's age) were entered into the analysis they offered little evidence that these factors were effecting their assessments of children's behaviour. Additionally, when variable background measures from the Family

Background Questionnaire (section, 3.1.6) were investigated, there were no significant differences between the groups (care and educational) indicating that home factors did not account for the differences in scores. One possible explanation may be that teachers at care centres over-rated children with behavioural problems which is possible considering attitudes and management practices noted in the TQ (section, 3.2.3.3) yet altogether, not probable. If anything, they (teachers at care centres) were more defensive of their approaches and it could be argued that they would try to under-rate the identification of children in their centres with emotional problems. It may be either case, and as this study did not test for causal links between staff attitudes or teaching styles associated with behavioural problems identified in children, there can be no conclusive explanations offered.

The most plausible explanation is that the educationally orientated centres met children's emotional needs.

### **5.3 Some limitations and implications**

Referring back to Table 49, it is clear (although not entirely explained) that children enrolled in educationally-orientated centres compared with children at care-orientated centres and children at home performed better on all developmental measures. Importantly, this occurred at no further cost (all tuition fees were the same throughout sample) or geographic inconvenience (stratified sampling) to the families involved.

This highlights a further consideration in discussing findings. On all assessments pre-test scores were higher for the educational group when compared with the care group and home. Two hypotheses are suggested for explaining this phenomena. The first may be due to the school effects which took place prior to pre-test scores. This hypothesis is supported by the finding that the educational group showed greater progress at post-testing. The second hypothesis may be attributed to unmeasured home characteristics between groups. With more working mothers, having more domestic help in their homes (in care and educational groups) they may have offered more time playing with the child and reading/telling stories to the child, than mothers at home (Table 6). Yet these differences did not apply to compared findings between preschool groups (Table 7). Unfortunately, there can be no causal direct explanations offered for pre-test differences in homes for two reasons: they were not tested for cause and, secondly parents were interviewed at the centre and no home visits were made.



On balance, it seems likely that an explanation for higher pre-test scores for the educational group (and care when compared to home) will be found in the education they received in the months before this research began. This is so for two reasons, both of which are based on empirical findings. The first has to do with curriculum planning and its scheduled plan for the entire school year. At the beginning of the school year there seems to be a noted impetus to 'teach' and preschool environments seem to be at their busiest. Teachers are fresh to start the new academic year after a long summer break (all schools in this sample closed for three months during the summer). Ministry officials pay more official visits and inspections at the beginning of the school year than at any other time (being government employees they also get long summer leaves). Although apparently true for all preschools, the difference between the groups, seems to be that teachers at educationally-orientated preschools tended to be more concerned with meeting qualifications. In many cases, they made earnest attempts to impress local officials by displaying and organizing special activities with the children. More importantly, there was an emphasis on teaching and constructing new materials at this time of year, i.e. the notion of 'improving' previous learning conditions seemed to be evident. On the other hand, the teachers at care centres tended to show less signs of renewed vigour in wanting to plan or create new activities. Informed observations found them less concerned with making special attempts for meeting and maintaining any quality standard. Several of these factors were illustrated in the management practices and teacher attitude scores in the previous results from the TQ findings (section, 3.2.3). They (preschool organisation, planning and teacher attitudes) appeared to play a role in the higher pre-test scores.

Turning to the second reason, the results show a body of descriptive evidence regarding conditions in the educational environment that support a higher quality learning setting when compared with care settings and home (better staffing ratios; more active-learning; child orientated practices; better working condition; more personal, caring interactive behaviours between children and adults; more varied facilities). These qualitative differences in the differing preschool environments, accentuated by the differences in teaching practices and management styles, are presumed to be the key components linked with higher performance shortly after preschool entry.

One further limitation in the findings from this research which should be stressed is the lack of attention given to the administrators/owners at the preschools in this sample. These women play a key role in almost all facets of preschool life - from

describing the orientation and management practices of the centres down to the finer details involved with curriculum construction and use. They generally see themselves as directors, managers, counsellors and teacher-trainers who must cope with problems, plans and issues. This study did not examine their roles, responsibilities and backgrounds which could have offered further explanation to the findings. Their position and influences are assumed to be impressive and would be imagined to play a critical role in effecting preschool settings. A researcher from one high quality programme suggests "the bottom line is that the success of early childhood programmes depends almost entirely on the adults who provide them" (Weikart, 1994).

Further investigation probed for an explanation regarding the higher pre-test scores at entry between groups in the literature reviewed. Several studies listed in Table 49a on preschool effectiveness have similarly shown a considerable variation in pre-test scores at study entry (Entwisle, Alexander, Cadigan, Pallas, 1986; Lazar et al., 1982; Lee, Brooks-Gunn, Schnur, 1988).

Table 49a:

Selected preschool evaluation/intervention studies: Differences at pre-test

<u>Study</u>	<u>measurement</u>	<u>sample assigned</u>	<u>effect size; mean diff.; text</u>
Schweinhart et al. (1986)	SB; WISC (IQ)	random	no sign diff. between groups at pre-testing
Schweinhart et al. (1993)	SB (IQ) at study entry; interview @ 27 yrs.	random	no sign diff. between groups at pre-testing; effect size=0.16
Lee et al. (1988)	PPVT a PI b	intact (non-random)	sign diff. (.05) between groups (3) at pre-testing and within samples (.001)c
Lazar et al. (1982)d	SB; WISC	meta-analysis on 11 studies: some random	sign diff. between groups: (mean scores: Weikart 79.57; Gray, 89.43; Beller, 92.16) meandiff range from 9.86-12.59(IQ);sign diff between program IQ and control IQ (.001) for Palmer study.
Entwisle, Alexander, Cadigan, Pallas (1986)	IQ	random	mean score differences (3 groups) ranged from 7-20 (IQ scores=113, 97, 90) no p values reported

Donachy (1979)	SB	intact	mean score difference between groups=11 (IQ) no p values reported
West Riding Project cited in Smith & James (1975)	EPVT e RDLS f	random	no data given; "results clouded by unexpected differences in initial group scores, despite random assignment"(p.233)
a Peabody Picture Vocabulary Test b Caldwell Preschool Inventory c Afro-American and White children d pre-test intelligence tests were not administered uniformly among the independent consortium investigators. One 'nearly randomised' project (Gordon) administered pre-test (IQ) during infancy at 1 year old; Miller administered pre-test six weeks into intervention; Levenstein administered pre-tests (IQ, SB) on only 20% of the sample and PPVT. Those projects that administered the same IQ test at program entry to the same age group (4 years) are considered in this table i.e., Gray, Beller, Weikart (Lazar et al., 1982, Table 14, p.45). e English Picture Vocabulary (EPVT) f Reynell Development Language Scale (RDLS)			

Where some studies have used randomly assigned subjects to groups, others have relied on intact samples for comparison. The High/Scope Perry Preschool Project (Schweinhart et al., 1993) attributes its rigorous long-term results to a randomly allocated sample (123 primarily Afro-American, disadvantaged children), careful control of background family variables and minimal pretest scores differences between groups (program, control). Conversely in other studies which have also employed randomly assignment, pre-test scores have varied considerably (Entwisle et al., 1986; West Riding Project cited in Smith & James, 1975). Even greater mean score differences between groups measured at pre-testing are found in larger evaluative studies which have used extensive statistical analysis (Lazar et al., 1982; McKey et al., 1985). Lazar et al. (1982) reported considerable differences on initial pre-test scores (IQ). Further significant differences ( $p < .001$ ) were also noted between groups (program IQ and control IQ) compared within a single project on pre-test measures (Palmer). Similarly, the evidence from McKey in the review literature on the Head Start programmes suggests that it is not atypical for pre-test scores to vary significantly between groups at pre-testing, considering the differential assignment to intervention in Head Start (McKey et al., 1985). When Lee et al. (1988) compared Head Start programmes with other preschools and a control group, she found significant differences at pre-testing. Furthermore, in this same study significant differences appeared within the sample on the pre-test scores for Afro-American and White children (.01). Owing to the considerable difficulties posed in sampling and controlling for variable background differences in several studies, the evidence suggests that significant pre-test variation between groups studied for intervention effects is more common than possibly realised.

Most of the studies shown in Table 49a have found significant effects from preschool intervention, in spite of the limitation of pre-test score variation between groups. Although effect sizes were not reported for most of the studies cited in 49a, the differences between mean scores at pre-testing are given. The evaluative study by Lazar et al. (1982) showed a lower range of mean scores differences at pre-testing (range from 9.86-12.59, Stanford-Binet, IQ scores) when compared with this investigation which reported mean scores differences of 21.68 and 23.45 between groups (Stanford-Binet, IQ scores). IQ mean score differences at pre-testing between groups for the study by Entwisle et al. (1986) reported IQ differences of 7 and 23 in mean scores differences between groups which compares similar with the higher mean score differences reported for this study.

While there appears to be some similarity of mean scores differences reported at pre-testing, the explanations for these differences are not straightforward and pose concern and the need for future investigation. Some researchers explain that pre-test differences are due to background variables that were not controlled for in the experiment. Other possible explanations may be time in treatment prior to pre-testing which is not accounted for (nor mentioned) in the study or possible confounding effects from outside preschool experiences e.g. several children attend more than one type of preschool facility on a daily/weekly basis.

It appears that the differences found for pre-test scores in this study are considerable, though not particularly unique to research on differences reported for mean scores at pre-testing. The current study and these reviewed in Table 49a cannot provide direct causal explanations for pre-test differences. In view of the continued significant progress made by the educational group over time, it seems plausible that some of the variation may be due to the intervention prior to pre-testing. It also seems reasonable to suggest that several important unmeasured home characteristics between groups may have accounted for the pre-test differences e.g. parental rearing practices; familial support systems; sibling relationships; etc. Unfortunately, several important family factors which have shown to be linked to beneficial gains in children's performance, were not investigated in this study. The researcher suggests that the role of working mothers (42.5% in preschool sample, 10% in home group, page 133); mother's educational backgrounds (10.2 yrs at educational centres; 9.6 yrs at care centres; 8.0 yrs at home); and features of the home life, possibly played an important role in children's performance. As mentioned throughout this study, these factors, along with several other important cultural and religious could not be investigated and therefore, unable to offer causal association with outcome measures. Clearly, further research is needed and has been considered in order to explain any causal relationships speculated.

The home factors measured, while showing some significant differences between the groups (preschools and home) made little contribution to explaining the differences between the outcomes. Furthermore, the amount of variance accounted for by overall home variables was typically, quite low.

The finding that the impact of early education is strongest in the educationally-orientated settings demonstrates differences in quality of preschool education offered in Bahrain. These measures of quality closely parallel those important features directly linked with constituting good practice (Ball, 1994, pp54-55). Some of these features are: active-learning approaches, well-trained staff, varied learning experiences, positive relationships and well planned and stimulating environments. All of these features, while highlighted in the results have implications for the future of early learning in Bahrain. They are:

- 1) The lack of teacher awareness and training for many preschool teachers
- 2) The dramatic differences in management approaches to early years learning: child-centred versus institutionally-orientated approaches.
- 3) The lack of active-learning in preschool practice and the present emphasis on adult-dominated teaching practices. Each of these above mentioned areas will be touched upon.

For some time, several researchers and professionals in the field have reported on the poor reputation of private preschool institutions throughout the Middle East and the lack of training programmes for early childhood teachers (Al-Misnod

1985; Morsi, 1990; Nashif, 1985). A number of private institutions throughout Bahrain are housed in inadequate school buildings with an insufficient supply and variety of materials for the number of children being served. Programmes tend to be highly structured in their approach and teachers play a dominant role both inside and outside the classrooms (Hadeed, 1994). Particular emphasis is placed on reinforcing religious and oral behaviours, often requiring children to sit for long periods (section 6.6.2.1, Time Sampling observations). Overall, children are not encouraged to initiate their own interests or express themselves independently (Hadeed, 1993; Al-Fadhel, 1986). Teachers are largely untrained, underpaid and fare low on the social status ladder. In the absence of any comprehensive educational programme for training preschool teachers, some early attempts sponsored by UNESCO and UNICEF provided brief in-service workshops and seminars in hopes of remedying the problems. While helpful to some extent, early programmes reached only ten per cent of the preschool teacher population and the overall success rate was less than 50% (Hadeed, 1994).

Other attempts to improve teaching were supported by regional organisations and universities which set up lectures and workshops emphasising the importance of early years education and the critical role teachers play in the development of children's lives (The Arab Bureau of Education for the Gulf States, ABEGS, The International Council on Education for Teaching ICET, Arab Gulf Fund United Nations Development AGFUND, the Arab Centre for Educational Research ACER, Kuwait University, the University of Qatar; and Bahrain University). Subsequently, clearer, more descriptive guidelines and regulations were legislated for private preschool institutions (the Amiri Decree, No. 14, State of Bahrain, Ministry of Education, 1985). Setting aside guidelines, the decree called for minimum qualifications for teachers working in preschools. That minimum specified that teachers needed at least a high school diploma and 'some training' in preschool education. A recent report suggests that the implementation of this criteria has not been met (Hadeed, 1993) and only ten per cent of the total preschool teacher population has received any training.

At present there are two programmes under way to train teachers. One is an on-going training programme based on in-servicing teachers already in the field. The other programme seeks to provide a more theoretical foundation with practical training for new recruits. The former is sponsored by AGFUND and private ministries, while the latter is a university-based programme that plans to offer a two year degree in Early Childhood Education. Any assessment of the in-service programme would seem to be premature at this stage as the initial

training is still in progress, yet there are encouraging signs that serious efforts are being made to improve early years training, e.g. focus on sensitising and making teachers more aware of their interactions with children; efforts to strike a balance between adult-initiated and child-initiated activities; creating a curriculum geared to the appropriate cultural context; some efforts to inform and involve parents.

At present, the university programme is grappling with many decisions concerning course content, criteria for qualifications and a host of other issues regarding the programme. It seems to be strongly weighted on academic course work, as its organisers admit (Al-Umran, 1994). Optimum conditions regarding supervision, co-ordinated and evaluative teaching and learning techniques for training purposes, fall painfully short of being fully realised. Programme organisers contend that the imbalance exists between theoretical and practical experience for teachers, but do not seem to know how to sort the problem out. They claim the confusion is owed to the novelty of the training programme. To get some impression as to how the students felt about the programme a brief questionnaire\* was administered to those candidates nearing completion of the programme (Hadeed, 1994). Overall, many students reported their instructors were not competent in presenting the necessary material for the course (56%) and one-fourth believed the entire programme was run poorly. Most felt there was an under emphasis on theoretical course work and many believed there was a need for more outside school visits and workshops. Despite the discontent, most trainees (75%) felt they would be very competent once employed as preschool teachers.

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\*The questionnaire consisted of 16 items. It was completed by 22 trainees who were to complete the programme at the end of term (Hadeed, 1994, in press). Due to the small sample and the nature of the questionnaire, these results should be viewed with caution.

The brief review of the current teaching practices in Bahrain has been discussed in an attempt to highlight the importance of the existing problems and to set the stage for some implications from this research.

The dramatic differences in management practices between various types of provision suggest a need to shift from widely existing adult-dominated approaches to more action-based, child-centred ones. This alone is a monumental task in the light of the existing provisions, teaching programmes and strict religious practices. For example, some teachers have mentioned that is difficult to manoeuvre freely because of the restrictive clothing, e.g. long gowns and head coverings. Yet the findings reported in this study indicate that teachers at educationally orientated centres are actively engaged with children's activities and they are similarly dressed. Clearly it is not the type of clothing that inhibits interaction, but rather attitudes towards the interplay between adult and child, that counts.

Closely tied into teaching practices and management styles are the teacher's attitudes which some would argue, lie at the heart of early years learning (Ball, 1994; Curtis & Hevey, 1992; Pascal & Bertram, 1993; Rutter, 1985). Ultimately, it is the positive, caring and sensitive attitudes which are the hallmarks of good educational practice (Clark, 1987).

The results from the Teacher Questionnaire would suggest that teachers need to re-think and restructure their views about young children, concentrating on what children can do, not on what they can't do. Certainly in the less favourable care-orientated environments there is very little respect or trust in what children are potentially capable of doing. The idea of policing and controlling children needs to be replaced with concern, knowledge and a caring trust, without fear of the child constantly making mistakes. These are fundamental tenets for learning and growth. Teachers need ways of understanding that individual differences do not have to pose a threat, but rather can be a challenge to learning. While the research literature are there, the implementation of them is difficult. These beliefs and attitudes that teachers hold are not only focused at the preschool level. They spill over into the home/family life with often similar attitudes shared by parents.



#### 5.4 Can findings be generalised?

As it stands, there are no signs above the doors designating which preschools offer the varying types of care and education, e.g. 'care-orientated'; 'educationally-orientated'; 'day-care'; and so on. All claim they are educationally-orientated and qualified in terms of educating and caring for young children. Distinctions between teaching practices, management styles, organisation, environmental settings, and parental involvement have largely gone unaddressed. Emphasis has mainly focused on issues related to maternal-child health and nutrition with a great deal of concern over physical development of the child. Naturally, in a developing country like Bahrain, health concerns have high priorities as government and world organisations fight to combat early childhood diseases and high infant mortality rates.

The final focus of this first discussion asks the question, "How applicable are these findings to other schools in Bahrain"? The findings should generalise to preschools of the same type used in this sample - all national preschools, all Arabic-speaking schools that are privately owned and registered with the Ministry. As the majority of preschool provision falls under this category, it would be justified in assuming that similar investigations following similar sampling and design procedures (and applied in preschools that were similar to this sample), would produce similar results. This would exclude all comprehensive, bilingual or special schools described as national or foreign nurseries.

However, with most research, it is important to recognize that there are unmeasured characteristics of children and family-life outside the school environment which have not been accounted for and may have influenced academic performance. The results, therefore, represent the specific considerations for a particular research which implies that the findings may constitute an overestimate of the effects which would be expected of any future research, carried out along the same lines.

When we ask how far the effects can be generalised, it seems important to look at previous research. Here the evidence is extensive and clear. High quality preschool education produces long-lasting benefits for children, cognitively, socially and emotionally. Previous research lends support to the validity of the findings presented here which have shown that characteristics in high quality early learning environments make a difference in children's performance. The important features of quality which research has linked to beneficial effects have been confirmed in this research.

## **Chapter Six**

**An investigation of some aspects of  
early childhood environments**

**The Early Childhood Environment Rating Scale (ECERS)**

**The Target Child Method: Time-Sampled Observations  
(TCCM)**

## Chapter Six

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## Chapter Six

### 6.0 Investigation of some aspects of early childhood environments

#### 6.1 Introduction

This chapter focuses on two instruments that were used to assess preschool settings: the Early Childhood Environmental Rating Scale (ECERS, Harms & Clifford, 1980) and the Target Child Method for time-sampling observations of children and staff behaviours (Sylva et al., 1980). Both instruments were used to compare two different preschool environments: care-orientated and educationally-orientated preschools. Where ECERS provides a general profile of characteristics of preschool environments, the Target Child observational measure has concentrated on specific child and adult behaviours. Combined, both instruments provide quantitative and qualitative measures of characteristics in preschool settings.

The information was collected by observational techniques and the goal was to describe what actually occurred in preschool settings that might account for the differing child outcomes described in the previous chapter.

#### 6.2 Methods of analysis: ECERS and Target Child Method

Both instruments required non-parametrical statistical procedures for analysis. In the case of ECERS, data was analysed using the Mann-Whitney U statistical test to compare differences between preschool environments. This procedure was chosen for two reasons: the limited use of the instrument in the Middle-East region and the instrument's adaptiveness in different cultural contexts (see section 7.1, Interpreting ECERS Results, for further explanation). For time-sampling, the results were analysed similarly using non-parametric methods (Mann-Whitney U) and descriptive statistical procedures (proportions and percentages).

### **6.3 The Early Childhood Environment Rating Scale (ECERS)** (Harms & Clifford, 1980)

The ECERS was selected as an instrument to assess the preschool environments for children and adults. The scale defines 'environment' as the use of space, materials and experience to enhance children's development, daily schedule and supervision provided. The scale is divided into seven separate subscales: Personal Care Routines of Children, Furnishings and Display For Children, Language-Reasoning Experience, Fine and Gross Motor Activities, Creative Activities, Social Development and Adult Needs. There are 37 items grouped in the seven different subscales. They are rated from 1, indicating an inadequacy, to 7, indicating an excellent rating for an item. Although some items are rated for all rooms in the preschool centre, some items are specific to a given room. Therefore, it is advised to rate one room at a time. The classroom for four-year olds in all preschools was selected for this sample.

#### **6.3.1 Background information on ECERS (with reliability)**

The ECERS has been used nationally in the United States and its authors have tested validity on two occasions. Each item was rated by recognised experts in the ECE fields for importance. The results showed 78% agreement on ratings. Secondly, these results were compared with ratings made by trainers who had been working with the staff. A rank order correlation of .737 was obtained (Harms & Clifford, 1980). To measure reliability, the authors used three measures: inter-rater reliability by item, inter-rater reliability by classroom and internal consistency. Rank order correlations by classrooms were high at .899 for 22 classrooms. Correlation for inter-rater reliability by item was .937 and .932. Internal consistency on a 25 classroom sample was computed using Cronbach's Alpha and Standardised Alpha and results were acceptable (Harms & Clifford, 1980).

### **6.3.2 ECERS applied in Bahrain**

It was not necessary to translate the ECERS into Arabic as the examiners were bilingual and the nature of the assessment does not directly assess individual or group performance which requires language comprehension. Preschools (care and educational) assessed in the pilot study and main sample were randomly sampled from four geographic areas previously matched on several social, religious, and economic background variables (Chapter 1, section 2.14, Design & Sample). Two official letters were sent to all preschools: one requesting permission for an initial unofficial (dummy) visit and another to do the official observation session (Appendices E & F). It had been previously arranged with the preschools participating that a day's notice was sufficient in order to carry out the main investigation.

To ensure the instrument's reliability, two observers conducted an inter-rater test prior to the pilot study. Four preschools (two care orientated and two educationally orientated) were randomly chosen and rated. The results were correlated and indicated a positive correlation coefficient (Spearman rho:  $r=0.80$ ). One observer was lower than the other but the pattern (direction) of ratings was almost identical.

### **6.3.3 ECERS: Pilot study**

The ECERS was pilot tested on eight preschools, four care-orientated and four educationally orientated (different from those chosen for the reliability test). Prior to the pilot testing session, a short dummy observation session was needed to give the child and the teacher time to adjust to the observers presence (approximately 2-3 hours). This practice was also applied for the main sample observations where a fresh preschool sample was selected.

Total scores for the four care orientated and the four educationally orientated preschools showed a significant difference between group scores indicating higher scores obtained for the educationally orientated preschools as shown in Table 50 (Mann-Whitney U test:  $p<.01$ ).

Table 50:

**Pilot study**  
**ECERS outcome measures according to**  
**preschool orientation**  
 (care and educational)

	<u>Care-orientated</u>	<u>Educationally-orientated</u>
Totals	375	734
Mean	93.8	183.5
sd	12.8	19.8
Range	75-103	163-207
The Mann-Whitney-U Test yielded a significant difference on total outcomes compared: (p< .014; U=0, U'=16; N=4) between groups.		

The rather broad scope of ECERS includes: the use of space; materials experiences to enhance children's development; daily schedule; and supervision. These characteristics are contained in seven subscales categories. They are:

- 1) *Personal Care Routines:* routine physical needs, such as napping, eating, grooming
- 2) *Furnishings and display:* furnishings, storage facilities, physical layout of environment
- 3) *Language-reasoning experiences:* activities and materials available for language use
- 4) *Fine & gross motor activities:* perceptual fine motor activities, large scale apparatus for outdoor play
- 5) *Creative activities:* art materials, dramatic play
- 6) *Social development:* space to be alone, free play
- 7) *Adult needs:* space and equipment; parental provisions

When the mean scores on the seven subscales (pilot study) for the care and educational groups were compared (Table 51) results showed that scores for the educationally orientated preschools were significantly higher in all seven categories when compared with scores for the care orientated preschools. This is graphically illustrated in Figure 22.

Table 51:

**Pilot study**  
**ECERS: Outcomes for seven subscales**  
**according to preschool orientation**  
**(care and educational)**

	<b>Care</b>		<b>Educational</b>		<b>z</b>
<b>Subscales</b>					
	<b>mean</b>	<b>sd</b>	<b>mean</b>	<b>sd</b>	
Personal care (5)	13.5	1.1	27	1.83	12.97***
Furnishing display (5)	14	4.16	26.8	3.20	4.85**
Language/reasoning exp. (4)	12	1.63	21.5	2.52	6.33***
Fine/gross motor activities (6)	22.8	3.20	33.8	4.79	3.82**
Creative activities (7)	12.5	4.73	34.8	4.27	6.99**
Social development (6)	10	.82	23.5	1.89	6.06***
Adult needs (4)	9	3.16	16.3	1.89	3.93**

Note: The number in the parenthesis indicates the actual number of items in each subscale category. The total number of items on scale equalled, 32.  
\*\*p<.01, \*\*\*p<.001: Mann-Whitney U, non-parametric analysis between subscales

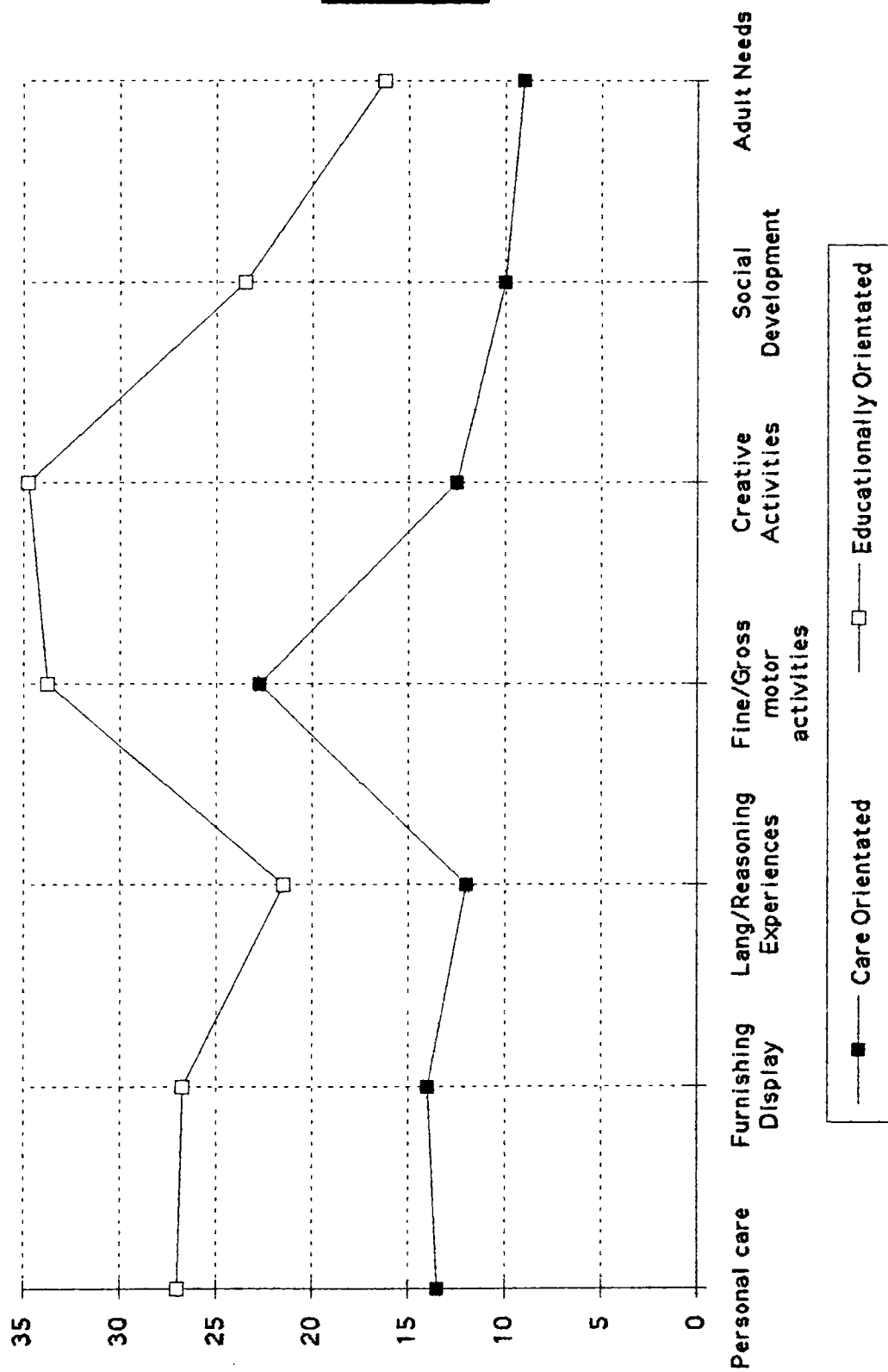
#### **6.3.4 ECERS: Main sample (N=12)**

For the main sample twelve randomly selected preschools (different to those used in the pilot study) were assessed using ECERS. The same procedure described in the pilot stage was followed for the main sample. There was a brief dummy observation session made to ensure a triad of child-teacher-observer familiarity. During all observation sessions there were no ostentatious moments that would have alerted the teacher or child that observation sessions were taking place. The subjects were acquiescent and undisturbed by the observer's behaviour.



**Figure 22:**

**PILOT STUDY: MEAN SCORES FOR SUBScales BY PRESCHOOL ORIENTATION (CARE OR EDUCATIONAL)**



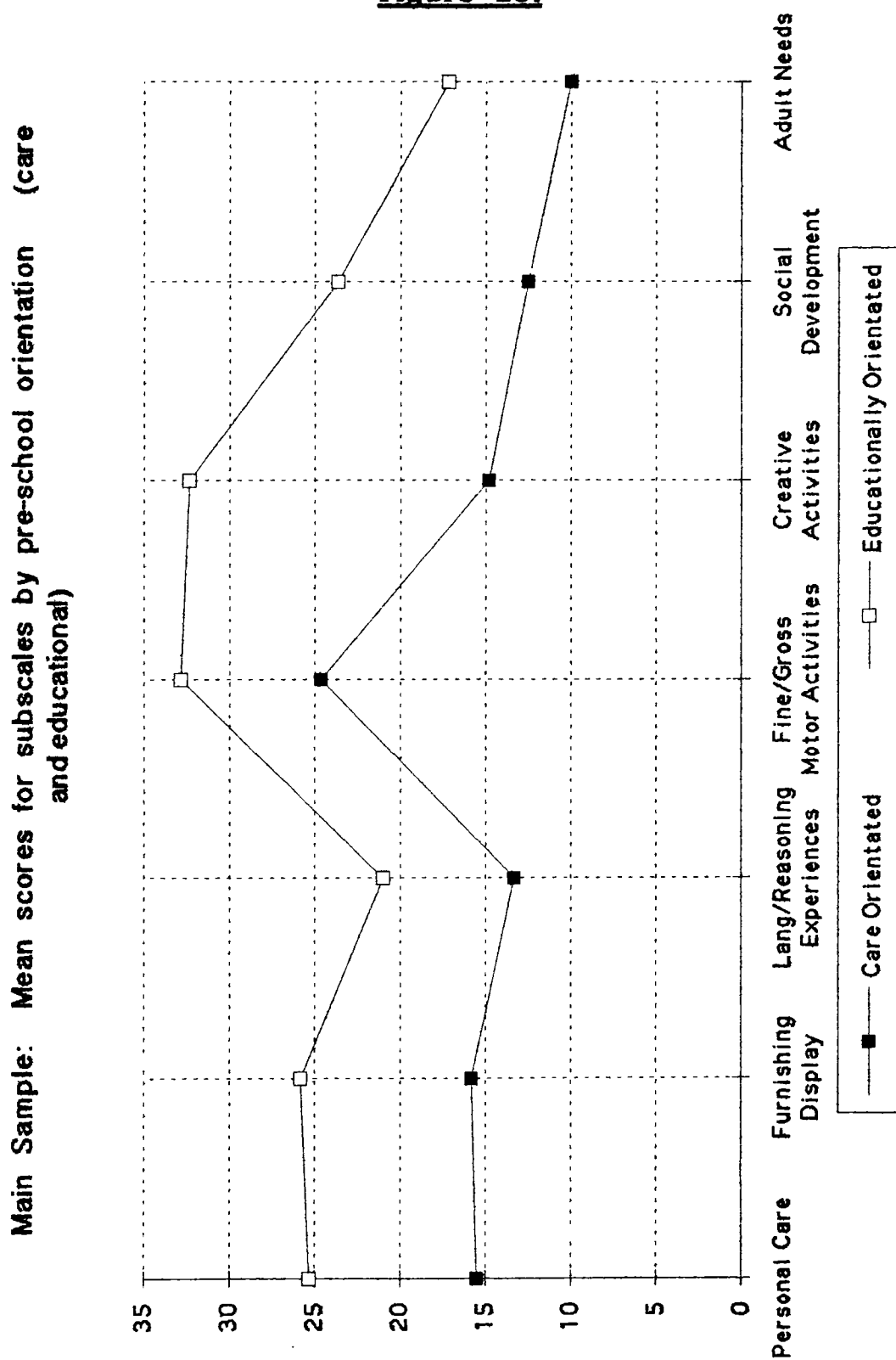
To compute the differences between total index scores between preschool groups, the Mann-Whitney U test was applied. This choice of a non-parametric statistical measure allowed the researcher to make no assumptions as to the frequency distributions of the two groups.

When the total scores from the six care orientated and the six educationally orientated preschools were compared for differences, results indicated a significant difference in groups (Mann-Whitney U;  $p < .01$  level; two-tailed: Table 52). The mean scores on the seven subscales for both groups (care and educational) when compared, showed significant differences with higher scores obtained for the educationally orientated preschools (Figure 23).

Table 52:

**Main sample (N=12)**  
**Total scores for ECERS by preschool orientation**  
**(care and educational)**

	Care-orientated	Educationally-orientated
Totals	640	1070
Mean scores	106.7	178.3
sd	22.8	18.7
Note. Results from the Mann-Whitney U Test; $p < .01$ level; two-tailed; $U=0$ , $U'=36$ ; $N=6$ .		

**Figure 23:**



Terms used for designated higher scores on the Creative Activities subscale were 'individual expression', 'free choice', 'variety', 'flexibility', and 'balance of structure.' These characteristics of creative activity reflect, not only the availability and use of the materials but, importantly the way in the which the materials are used by the children (Harms & Clifford, 1980, Instruction Manual ECERS. pp 27-29). They also help to describe the significant difference found in the Creative Activities category between the two different types of preschool settings. Children in the educationally orientated preschools demonstrate more free choice when engaged in activities such as art, music, dramatic play, provision for sand/water activities and block construction than children at care settings. They are more likely to engage in making 'original' art work with a variety of materials available. In contrast, children at care centres more often demonstrate 'art' in group projects directed by an adult whereby they reproduce (copy) the same activity (cut & paste drawing, finger painting, collage, etc.) at the same time. The 'best' art works are the ones which closely represent the original and individual expression is discouraged.

It is apparent that teachers at the two different types of preschool settings identify and engage in creative activity in different ways. Their ideas and understanding regarding 'creativity' differ considerably. Care teachers are more likely to put emphasis on product-orientated activities with little concern for the 'process' involved in creative activity (Benham, Miller & Kontos, 1988) while teachers at educational centres tend to demonstrate a more open-ended understanding towards creativity in the classroom, i.e. they don't discourage free expression or originality. In practical terms, teachers in both preschool settings are struggling with questions concerned with 'creativity', 'free choice' and 'individual expression.' The question is not only *what* it is (describing and recognising creative enterprise in children) but *how* to provide and stimulate creativity in the classroom. Most teachers view the problem (and solution) as one due to the lack available materials while few recognise the problem, not in terms of deficiency but rather as a lack of knowledge and training.

Considering the difference for the category of Furnishing/Display, two particular items received low ratings for the care orientated group, i.e. Item 9, Room arrangement (including learning centres) and, Item 8, a designated area For relaxation and comfort, such as a 'planned cosy, cushioned area' available to the children (Harms & Clifford, 1980, p.17). There were very few learning centres at care centres and most areas designated for relaxation were tattered and uninviting corners for children to play in.

Personal Care ratings show care orientated preschools less likely to have plans for greeting/departing children and parents, on a daily basis. Provisions for toileting/washing did not vary considerably in both care and educationally orientated preschools, i.e. both care and educational had equal number of child-size toilets and sinks. The difference in mean scores (care: 17.7; educational: 25.3) was due to more adult (teacher) interaction and assistance at the educationally orientated preschools when compared with the care preschools. More conversation of a pleasant and/or learning nature took place between the adult and the child in the educational centres, i.e. higher scores indicated conversation, individual attention and pleasant chat with parents. Similar findings were reported by King, Raynes and Tizard (1971) when comparing institutionally orientated and child-orientated units,

"Heads of child-orientated units spent a significantly greater proportion of their time in activities which necessarily involved them with the children . . . while the heads of institutionally-orientated units spent significantly more of their time in tasks which did not necessarily involve children, e.g. administrative activities"

(Colton, 1988, p.173).

The 20.9% difference between ratings for Language/Reasoning Experiences between different preschool settings was due to the variety, type and extent of language opportunities afforded to children at educational centres in the following areas: free choice of language materials, quantity and quality of type of language materials available, scheduled times for expressive language development; teacher assistance in asking questions to stimulate child's reasoning; and adult-child conversation where staff expanded on ideas presented by child. Teachers at educational centres were more likely to 'extend' language activities than teachers at care centres (further evidence and discussion in section 6.6.2.4). In care environments teachers tended to give short yes/no answers more frequently and children were not encouraged to converse freely. Most activities were teacher-directed and when opportunities for free play were provided it was usually not supervised with the intent of enhancing language abilities. Free play was generally regarded as periods away from 'real' learning (Lally, 1988).

The Social Development category consisted of six items: space to be alone, free play, group time, cultural awareness, tone (general impression of the quality of interaction), and provisions for exceptional children. Differences between care and educational groups were largely accounted for by two items - free play (Item 29) and cultural awareness (Item 31). As with language, free play was not considered an opportune time for language or social development in the care orientated preschools. Children were more or less left on their own to play while staff involvement focused mainly on misbehaviour, disputes or problems. Staff saw this time as an opportunity for chatting amongst themselves. To a lesser extent this applied to educationally orientated preschools, with the exception that staff did occasionally play with the children at play time with the intention of extending on the task involved. In such cases, it was difficult for the researcher to know if this factor was due to the obvious presence of the rater or something normally done by the staff, i.e. observer bias.

The other item, cultural awareness, was measured by the evidence of ethnic and racial variety in toys and pictorial materials, e.g. bulletin boards, dolls, and books depicting cultural and racial differences. Whereas the care orientated preschools provided some evidence of pictures, for the most part they were not used for the purpose of stimulating cultural awareness in the child, but rather for purely aesthetic reasons. These pictures were usually posted quite high and out of view of the child's eye range. They were often commercial advertisement posters/pictures which promoted products made elsewhere. Very modest attempts were made by the educationally orientated preschools to promote cultural awareness. Occasionally, pictures of different people in their native countries were posted and brief discussions were made with the children. In many cases, though, this was frowned upon by administrators and parents, particularly those who believed that 'outside' influences could be misconstrued as misguided curriculum, thus undermining national and religious beliefs, e.g. some teachers believed that it was important to integrate cultural differences in the curriculum but felt they would be reprimanded for doing so. In a different cultural context, this same lack of regard for individual differences has been demonstrated in another study in the US. using a sample of twenty-one child care centres (Benham, Miller, Kontos, 1988). In America, where there are virtually 'countries within countries' in terms of cultural diversity, this study demonstrated that neighbourhoods often defined by socio-economic factors, are not providing environments for preschoolers that promote cultural awareness and differences, i.e. this study's sample had few minority families and few special needs families enrolled. According to Benham and her colleagues, "even for programmes in homogeneous communities, training is needed for the planned use of multi-

cultural, non-stereotyped materials . . . Before caregivers can promote cultural awareness in children, . . . they must be culturally aware themselves" (1988, p.14).

Mean scores for the Adult Needs category were 10.0 for care orientated preschools and 17.2 for educationally orientated. Provisions for staff's personal belongings and a staff lounge area with adult-size furnishings varied with type of preschool orientation. In care orientated preschools, staff often used the office/reception area for storage of personal items and lounging when parents were not around. Staff at educational preschools had special designated areas exclusively provided for their use. In some cases, the adult areas served a dual purpose, i.e. for material storage or as a working area for making materials for the classrooms.

It seems from the growing body of research that a key factor in determining the quality of a centre rests on those provisions (or lack of) provided for adults (Ball; Benham et al., 1988; Curtis, 1986; 1992; Fiene, 1992; Harms & Clifford, 1980; Katz, 1993; McCartney et al., 1985; Zigler & Styfco, 1993). Adults, like children, work better in environments that provide privacy, comfort and relaxation. Such conditions foster concentration and respect for others.

The smallest (although still significant) differences between ratings for both groups in a single category was found in the Fine/Gross Motor Activities (16.7%), although there was significance found. The amount, quality and scheduled use of outdoor apparatus (gross motor activity) did not vary between care and educationally orientated preschools. Swings, slides and climbing apparatus were in relatively good working condition and all preschools had specific set times for playing outdoors. The significant finding between care and educational preschools was due to the varied amount, quality and use of fine motor materials provided for children. Children at educationally orientated preschools were allowed more frequent access to fine motor materials. Educational materials were more likely to be given to the child by request in the educationally orientated preschools, whereas they were predominantly used in the care orientated preschools when the teachers deemed appropriate.

It should be mentioned that differences between specific types of apparatus and materials could not be accurately assessed by ECERS. This scale limits itself to a general list of materials for describing the perceptual and fine motor category, e.g. beads, puzzles, lego and small building toys, scissors, and crayons (Item 15). Therefore, it would be difficult to know how the two types of preschool settings



differed on provision for materials specific to certain subject areas, e.g. sensori-motor materials; pre-writing tasks; math (quantity, size, shape, spatial-perceptual) tasks; and science materials.

Overall, the average total index scores for the care and educationally orientated centres was 178 and 106.7, respectively (out of 259). For the educational centres, this average compared slightly higher with other studies, mainly carried out in the US, e.g. Farguhar (1989) with an average of 137.1 in New Zealand; McCartney, Scarr, Phillips and Grajek (1985) with an average of 121 for eight profit-run centres; and Benham, Miller and Kontos, (1988) showing an average of 160 for 21 child care centres. On the other hand, further studies showed that the average for the educational centres was comparatively lower than their findings (Harms & Clifford, 1983, 186.04 average; McCartney et al., 1985, 191 average for a government intervention school). The average total scores for the care-orientated group when compared, falls considerably below the mean averages found in the above mentioned studies.

When studies are compared internationally there is a wide variation for total ECERS scores. This presents a problem in terms of assessing quality with a consistent degree of cultural adaptiveness. When Farquhar (1989) investigated eight centres in New Zealand, she found that the overall quality (as defined by ECERS) was consistently lower when compared with other studies carried out inside the US. With a reported small variation between the centres she evaluated in her sample, she believes the scale is 'cultural specific' and recommends that quality should be assessed in terms of child outcomes, i.e. cognitive, social, emotional, motor, language (1989, p.95). Others have argued that possibly the scale needs to consider quality in terms of the affiliation of the centre, i.e. either as a profit or non-profit organisation (Kontos & Fiene, 1985; Fiene & Melnick, 1989). While investigating 'quality indicators' in ten day care centres in Pennsylvania, Kontos and Fiene discovered that non-profit centres scored higher on two measures of quality when compared to profit centres (1985, ERIC file, AN. ED255290). However, the children who had attended the profit centres had higher outcome scores. The results showed that day care centres that complied with state regulations (Title 5) were not necessarily good indicators of programme quality. In contrast, a more recent study by Howes and Whitbook (1991) found that when state standards were being met, children were more likely to be in classrooms indicated as adequate in terms of quality.

Although it is not a 'gold standard' of quality, it seems ECERS value is a descriptive assessment for preschool environments, i.e. a general yardstick to gauge overall preschool surroundings.

Another important characteristic which is not considered directly in the ECERS assessment is the ratio of teachers to children in the preschool environments. It has been considered in this study as an important factor affecting preschool education and has been reviewed in Chapter 1, Review of the Literature, section 1.8.1.4. More comprehensive consideration on the subject can be found in several reviews on preschool education (Ball, 1994; Epstein, 1993; Lamb et al., 1992; Sylva, 1994; Schweinhart et al., 1993).

The following table provides the range of staff/child ratios for this study according to the preschools that participated in the ECERS assessment. The range of scores per group, based on each preschool's total index score, is proportionally expressed out of the total possible score of 259 for ECERS.

Table 54:

**Staff/child ratios**  
**According to preschool orientation**  
 (care and educational)  
**ECERS (N=12)**

	Care	Educational
Adult-child ratio (range)	1:21 - 1:27	1:12 - 1:18
% rating of total ECERS Scores (out of 259)	29-54%	60.6-80%

All preschools designated as educationally-orientated provided more teachers for the number of children served when compared with the staffing at care orientated centres. The relationship suggests a positive association between favourable ratios and ECERS scores. This would support previous research which indicates that good staffing ratios are critical for providing optimum quality care for young

children (Fields, 1991; Howes & Olenik, 1986; Ball, 1994; Ruopp et al., 1979; Schweinhart et al., 1993; Vandell et al., 1988; Zigler & Hall, 1988).

### **6.3.5 Comparing the results on ECERS with the results on the Teacher Questionnaire (TQ)**

As mentioned, the results from the ECERS on the main sample of twelve preschools showed significant differences between scores for the care and educational groups ( $p < .01$ , Table 52 & 53). A further investigation considered a correlation of the scores from ECERS with the results from the Teacher Questionnaire/Interview (TQ). The attempt was to investigate the relationship between the structure management practices and the teacher's attitudes with the outcome measures on ECERS. Were the institutional-management practices at care-orientated preschools associated with the overall environmental outcomes (ECERS)? Were the child-orientated practices at the educationally-orientated practices associated with the environmental outcomes (ECERS)? Were the staff attitudes associated with ECERS outcomes?

Aggregate scores were computed for the TQ from the Structure/Management scale and the Staff Attitude scale after split/half reliabilities were performed separately (.830, .550). Two correlation analyses were performed using the Pearson's Product moment coefficient. The results indicated a significant correlation for the paired scores ( $r = -0.76$ ;  $p < .01$ ; two tailed) for the Structure Management Scale and ECERS outcomes. Furthermore, the Staff Attitude scores yielded a positive, nearly significant correlation with ECERS scores ( $r = 0.56$ ; critical value of 0.576 at the 0.05 significance level). The negative coefficient suggests that when scores decrease (more child-orientated practices) then the preschool settings are more favourable.

### **6.4 Time-sampled observations of children and staff at different preschool settings**

The Teacher Questionnaire/Interview (TQ) established different staff attitudes and management practices in educationally- and care-orientated centres (reviewed in Chapter 3, section 3.2).

Two assessment procedures were proposed for describing and investigating preschool environments (care and educational). They were:

- 2) A profile of the preschool environments, using the Early Childhood Environmental Rating Scale (ECERS), Harms & Clifford, 1980.
- 3) Time-sampled observations of staff and childrens' behaviours (Target Child Method, Sylva et al., 1980).

The first instrument for assessing aspects of preschool environments has been discussed. The following discussion focuses on the Time-sampled observations of staff and childrens' behaviours in two types of preschool settings.

### **6.5 Time-sampling observations: The Target Child Method**

To explore differences in the child's behaviour and the staff's involvement in the educationally orientated preschools and the care orientated preschools time-sampled observations were made using the *Target Child Coding Manual*, (TCCM). (Sylva et al., 1980).

The information collected by using the TCCM allowed the researcher to focus on the children's *interaction* within his/her surroundings, i.e. other children, adults, activities and non-activities. The method provided a clear, structured format to follow. Its procedure utilises a scientific coding system for recording, filtering and interpreting minute aspects of behaviour. More importantly, it offers a systematic recording of the child's behaviour while the child *is* actually participating in the environment, i.e. in 'real time.'

The TCCM has four major code categories for defining observed behaviours:

- 1) the *Language Code* (what the child says and what is said to him/her)
- 2) the *Task Activity Code* (what the child does)
- 3) the *Social Code* (whom the child is with)
- 4) the *Adult Involvement Code* which describes the type and degree of adult interaction (The Adult Involvement Code was developed in Sylva, Smith & Moore, 1985, Monitoring The High/Scope Training Programme).

Within each category are coded listings which correspond to aspects of behaviours in the classroom environment, i.e. TC - C, means the target child (the one being observed) is talking to another child; A - Group, means an adult is speaking to a group; ART, in the task code category, means the child is painting, drawing, cutting - involved in some type of art activity; GWR, another task listing code, means ball games, board games, etc.; PAIR, in the social coding means child chatting with adult; SOL means child is playing alone with brief exchange of greetings with adult; etc. In all, there are ten different social-code categories, twenty-four task activity categories, seven different language codes, and seven adult involvement codes. Intervals of one-minute observations were used for recordings on 120 children for twenty minute timed intervals, totalling 2400 one-minute observations.

The TCCM was developed as part of a number of projects under the *Oxford Preschool Research Project* and directed by Jerome Bruner (1975-1978). The research included a number of projects, i.e. observational and interactive studies in preschool units and studies in day nurseries with emphasis on childminders, parents and preschool units. Results from the research projects were published in several books, one of which is referred to in this research, Childwatching At Playgroup and Nursery School (Sylva, Roy & Painter, 1980).

The aim of the target child team was to assess the 'extent to which the various contexts in preschool units stimulated complex activity, concentration and conversation between the children and between them and the staff' (Clark, 1988, p. 79). In Oxfordshire, England, a sample of two age groups (N=120) of children from three types of preschool units were selected and observed using the TCCM. Each child was observed for two twenty-minute intervals, using half-minute observation recordings. A few of the many important findings reported in this research, were: (1) large open free-play areas in preschool units may lead to flitting and distraction and 'low level' activities in play (2) there are potential weaknesses in preschool programmes where children spend much of the day in compulsory activities - too much routine (Miami sample) (3) units with higher task structure encouraged greater complexity during free play settings (Clark, 1988; Tizard et al., 1976) (4) there was limited conversation between adults and children, i.e. mostly a one-off variety and not dialogue. (A dialogue is defined as a three or more turn sequence of conversation-80% of the 9600 half-minute recordings had no dialogue in them) (5) children in pairs were more likely to engage in higher level play (6) complex activities with clearly stated and achievable goals were stimulating and extended dialogue.

### **6.5.1 TCCM: Reliability and validity- Oxfordshire study**

To measure the agreement between the three observers used in the project (inter-observer reliability) Sylva and her colleagues, used a randomly drawn set of filmed video observations and to which they applied the Target Child Coding Manual. A Kappa test of agreement showed high inter-rater agreement between coders (80s-90s).

They investigated the effect of predictor variables (e.g. age, sex, curriculum) on the following behaviours: level of challenge of child's play, the presence of dialogue, teacher extensions and support. The research findings were divided in half (an older child group and a younger child group) and each was treated with separate regression equations. The results showed that the play activity in which the child engaged was a powerful predictor in terms of challenge (and concentration). As noted, children in pairs and children having conversation were more likely to be engaged in higher level play, i.e. challenging activities (Clark, 1988).

Further studies using time-sampling observations seem to indicate as a rule of thumb, that it is best to guard against any straightforward relationships between variables (Tizard, Philips & Plewis, 1976; Smith & Connolly, 1980). By its very nature, observational data cannot establish causal relationships but rather to lend support to a causal hypothesis. They (time-sampled observations) do offer, though, further clarification of issues and often exclude interpretations which otherwise might have been given for results (Clark, 1988).

## **6.6 The TCCM applied in Bahrain**

Prior to the administration of the TCCM in Bahrain, the researcher familiarised herself with the instrument on a sample of sixteen children from two nursery schools in the London area. Three hundred and twenty, half-minute observations were made using the TCCM. Recordings from this 'practice' sample were discussed with colleagues and any administrative queries were answered at that time.

### **6.6.1 Main sample (Bahrain)**

A sample of 120 children were randomly selected from ten preschool institutions (stratified random sample). Twelve children, from ten preschools (care and

educationally-orientated) were observed for a twenty minute interval, using one-minute recordings. Half of the sample were boys (60) and half girls (60), and all complied with the criteria used in the larger main sample (for psychometric testing) for matching background, age, status, etc. There were a total of 2400 one-minute observations with 240 minutes observed per preschool centre. The sample size and number of minutes per child observation was chosen for two reasons: 1) to provide a more representative sample of the two types of preschool orientations for comparative analysis, and 2) to offer a further description and explanation to the previously measured differences between the behaviours and outcomes of children in attendance at care and educationally orientated provision.

#### 6.6.1.1 Reliability: TCCM (inter-rater reliability)

The TCCM was tested for reliability in two ways. Firstly, a study of ten children, outside the main sample, were observed in ten-minute intervals by two independent observers, simultaneously. Results were analysed using the Kappa statistic K for nominally scaled data. The correlations by the two observers were as follows:

<u>Behavioural categories</u>	<u>Kappa</u>
Task (activity) -(24)	0.93
Social participation -(8)	0.91
Language: utterances-(6)	1.00
Adult involvement-(7)	0.91

For the second reliability test, video-taped recordings were made on a sample of seven children from the two types of preschool units. Each child was taped for a ten-minute interval and the recordings were coded by two researchers familiar with the TCCM. The correlation agreement (Kappa) yielded the following:

<u>Behavioural categories</u>	<u>Kappa</u>
Task (activity)-(24)	0.97
Social participation-(8)	0.83
Language: utterances-(5)	0.86
Adult involvement-(7)	0.90

### 6.6.2 Results:

The time-sampled observations in both types of provision were to provide a further explanation as to why children in the educationally orientated preschools received higher scores on individual assessments and why the environmental measures (ECERS) favoured the educational orientation over care.

In line with its authors' intentions (Sylva, et al., 1980) the categorising of behaviours in each preschool setting followed the specific behavioural codes described below. The results will be discussed in accordance with the behavioural codes listed.

- 1) the Task codes contains 24 activity categories (copied with permission from Sylva et al., *Childwatching at Playgroup and Nursery School*, 1986) which are listed in Appendix F
- 2) the Language codes which measured the number and status of the utterances the target child addressed to others and those utterances addressed to the child.
- 3) the Social codes which measured the social settings in which children participated.
- 4) the Adult Involvement codes which measured the type and extent of interaction between the adult/staff and the target child.

#### 6.6.2.1 Task activities

A total of 2400 one-minute observations were recorded for 120 children, both in and outside the classroom. The frequency of each task activities for both types of preschool orientations were coded in the categories described in Table 55 where frequencies and proportions are based on the total number of observations. Additionally, the proportion of the total time occupied for each task in the sample is given. For example, children engaged in running, swinging, climbing (large muscle movement, LMM) were observed for 178 one-minute observations which was 7.6% of the total time observed (N=2400 one-minute observations; after attrition, the number was reduced to 2354).



Table 55:

**Total observed frequencies for  
task activities (N=2400)**

<b>Task Activities</b>	<b>N</b>	<b>% of Total time</b>
Large muscle movement (LMM)	178	7.6
Large scale construction (LSC)	7	.3
Small scale construction (SSC)	23	1
Art (ART)	61	2.6
Manipulation (MAN)	176	7.5
Adult-directed art and manipulation (ADM)	46	2
Structured materials (SM)	0	0
Three Rs activities (3Rs)	181	7.7
Examination (EX)	0	0
Problem-solving (PS)	46	2
Pretend (PRE)	180	7.6
Scale-version toys (SVT)	7	.3
Informal games (IG)	92	3.9
Games with rules (GWR)	15	.6
Music (MUS)	80	3.4
Passive adult-led group activities (PALGA)	157	6.7
Social interaction, non-play (SINP)	74	3.1
Distress behaviour (DB)	0	0
Standing around, aimless wander or gaze (SA/AWG)	10	.4
Cruise (CR)	10	.4
Purposeful movement (PM)	72	3.1
Wait (W)	131	5.6
Watching (WA)	453	19.2
Domestic activity (DA)	354	15
	<b>2354a</b>	<b>100</b>

a. Number of total observations analysed=2354. Those task listings that were ambiguous or categorised by more than two settings were excluded which accounts for the discrepancy between the 2400 one-minutes in the sample. This analysis is based on total timed observations in both preschool settings, not on a per child basis.

The children (N=120) spent slightly more than half their free-play period playing (Table 55). When they were not playing, they were most likely to be waiting, watching and listening (49% of non-play observations). When the tasks, Standing Around, Aimless Wander or Gaze (SA/AWG) and Cruising (CR) were added to this total the results indicated a substantial proportion of time spent in categories described as 'inscrutable behaviours', meaning their complexity or cognitive yield (challenge) are ambiguous by their very nature, i.e. it is highly debatable whether a child engaged in watching is allowing his mind to wander or is contemplating a idea, concentrating or creating (Sylva et al., 1980). These rates are higher than previous research conducted in Europe and America (Blatchford, Battle & Mays, 1982; Sylva et al., 1980; Tizard et al., 1976a; 1988) yet

are more closely aligned with results from observations of children in other countries (Bekman, 1982; Nabuco, unpublished early findings, Portugal, 1992).

Similar to previous research, there was a tendency for children to prefer Large Muscle Movement (LMM) activities, such as swinging, climbing apparatus, running and manipulative toys (Blatchford et al. , 1982; Davie et al., 1984). Pretending was also a preferred form of play for children yet it occurred less often in care orientated preschools. There were no behaviours observed in three categories: distress behaviour, examination and structured materials for both preschool orientations. This may be due to the rather short observational session for each child (20 minutes) and/or a possible observer bias, that is, teachers made every effort to curtail any potential disruptive behaviours before they happened while an observer was present.

#### 6.6.2.1.1 Task activities compared between preschool settings

When the task activities were compared between preschool orientations (care and educational) significant differences emerged. Scores were tallied for each child's participation in task activities over the observed twenty minute time interval. The individual task items were compared between the two sets of scores across the two preschool orientations. A comparative analysis between mean rank scores was assessed by the Mann-Whitney U test, a non-parametric statistical procedure (Table 56). This choice of procedure was chosen for two reasons: the nature of the data was ordinal and standard deviations indicated some variation. Thus, the non-parametric choice of test made no assumptions about the shape of the distributions and was considered appropriate. The mean scores represent the average time engaged in a task activity per child in each preschool setting. For example, on Item 20, children at care settings (n=60) engaged in watching twice as much as children at educational settings (n=60): M=5.0 at care centres and M=2.4 at educational centres, based on observation sessions of twenty minutes per child. The mean rank scores represent the comparative differences between groups based on ranked order, not mean scores. These scores have been shown to express accurately the findings in terms of significance between groups.

**Table 56:**

**Mean scores on task activities  
according to preschool orientation  
(care and educational)**

		<u>Care</u>			<u>Educational</u>			<b>Z</b>	<b>P</b>
		mean	sd	mean ranks	mean	sd	mean ranks		
1.	LMM	1.47	3.52	59.3	1.53	3.03	61.7	.48	.32
2.	LSC	.03	.26	60.5	.05	.39	60.6	.01	.49
3.	SSC	0	0	58.5	.37	1.48	62.5	2.03	.02
4.	ART	.02	.13	56.9	1.15	3.53	64.1	2.5	.007
5.	MAN	1.22	3.55	58.2	1.55	4.20	61.8	.86	.19
6.	ADM	.75	2.42	64.	.03	.26	56.9	2.4	.008
7.	3Rs	.56	1.45	56.3	2.47	5.12	63.7	1.6	.05
8.	PS	.15	.69	56.2	.77	1.93	64.8	2.2	.01
9.	PRE	.92	1.72	58.9	1.8	3.48	62.	.54	.29
10.	SVT	.17	.83	61.5	.03	.26	59.5	1.02	.15
11.	IG	.68	1.99	58.3	.75	2.05	62.7	.96	.17
12.	GWR	.12	.78	60.9	.25	1.94	60.	.56	.28
13.	MUS	.78	1.75	64.2	.55	1.84	56.8	1.78	.04
14.	PALGA	1.45	3.28	62.7	.88	2.59	58.3	.97	.16
15.	SINP	.85	1.93	63.4	.67	2.12	57.6	1.15	.12
16.	SA/AWG	.12	.37	62.5	.03	.18	58.5	1.47	.07
17.	CR	.08	.33	60.5	.1	.44	60.5	.01	.47
18.	PM	.28	.69	56.2	.92	1.73	64.9	1.8	.03
19.	W	1.45	2.17	66.2	.72	1.64	54.8	2.13	.02
20.	WA	5.	4.08	70.5	2.43	3.29	48.5	3.82	.000
21.	DA	3.55	4.82	64.1	2.4	4.49	56.9	1.24	.10

Note: Categories, SM, EX & DB were not shown because there were insufficient numbers in each cell. Data is based on scores per child: 60 children in each group orientation (20 minute observational sessions). Comparative analysis was based on mean rank scores: Mann-Whitney U test. Z scores are given for samples >20 (Miller, S., 1974: table I, p.173).

For more information about task codes see Appendix D (copied with permission from Sylva et al., 1986. pp. 240-242).

Children at educationally-orientated preschools engaged significantly more in small scale construction and art tasks. They were more inclined to initiate tasks that involved purposeful movement and tasks that required problem-solving than children at care centres. Both tasks are not only products of quality preschool practice but are characteristic of early years learning environments that foster long-term benefits in later life (Moyle, 1989; Weikart, 1993). Problem solving and purposeful-movement behaviours have been associated with beneficial effects on aspects of development in a number of research studies and articles

(Clark, 1988; David, 1992; Field, 1991; Howes, 1990; Jowett & Sylva, 1986; Lazar et al., 1982; Olsen & Zigler, 1989; Osborn & Milbank, 1987).

Children at care-orientated settings engaged less in 3Rs tasks and spent more time in adult-directed art projects when compared with children at educational centres. These findings seem to confirm earlier observations made by ECERS where children had limited materials and opportunities for engaging in original art projects (this chapter, section 6.3). To some degree, it also justifies the previous management practices observed at care orientated centres whereby children are given all the same activity at a given time and there is little individual expression (Teacher Questionnaire, section 3.2). Possibly the most disturbing finding was the long periods children spent sitting (often being reprimanded for minor movements and utterances) and waiting, particularly at care centres. It seems this observed behaviour is not atypical to the children only in this study. Other research has previously documented similar findings in several countries in the region (Al-Fadhel, 1989; Al-Jasser, 1990; Al-Jishi, 1988; Morsi, 1990; Nashif, 1985; Shirawi, 1989). Characteristically, it seems when quality is low children spend more time waiting and watching.

#### 6.6.2.1.2 Which tasks did children engage in?

Although the intentions behind the analyses for this sample are not to decipher the complex factors associated with play (that would require an entire research in itself) it is important to pause and look at the tasks associated with fostering or nurturing children's play. By doing so, the proportions of time spent in task activities will provide more meaning for comparison between the two preschool environments-care and educationally orientated preschools. Previous research (Lally, 1988; Moyles, 1989; Schweinhart et al., 1993; Sylva et al., 1980; Tizard, 1975) suggests that all task activities are not equally challenging (intellectually) for the child. According to the findings from the Oxford Preschool Project (Sylva et al., 1980) some activities, like art, constructional activities and structured materials promote and encourage challenge for the child. These activities are generally goal-orientated and have a built in 'control of error' (Montessori, 1967) which provide a real world feedback. They tend to produce behaviours which demonstrate 'high yields' in terms of cognition, concentration, and perseverance at a given task. Less challenging or intellectually demanding are those tasks described as yielding 'moderate yield', such as pretending, Small Version Toys (SVT) and manipulation tasks. Interestingly, children engaging in these tasks often lack commitment to a goal and may be using them as a cover for watching others, resting, or just for chatting (1980). The lower yielding tasks which often

lack tangible feedback and correction are games (both informal and with rules) and gross motor play (Large Muscle Movement). Least challenging of activities would be the social playing around (giggling, goofing-off).

These different activities (high yield, moderate yield and low yield) were compared in both preschool settings. Each child who engaged in the activities described as providing cognitive stretch was given a score of either 0 or 1. These scores per child were then analysed by chi-square test between the two preschool groups. This rather conservative procedure was adopted so as to avoid any possible overlapping or clustering of frequencies in task cells. So, for example, in Table 57, for the task item 3Rs, ten children out of sixty in care settings; and sixteen children out of sixty in educational settings, were engaged in this task. When analysed with the other counts from music, construction tasks and art activities, the results showed significant differences between preschool orientations on their children engagement in activities described as high-yielding.

Table 57:

**Cognitive 'stretch' for task activities  
according to preschool orientation  
(high yield; moderate yield; low yield)**

<u>Task</u>	<u>Care</u> (freq count)	<u>Educational</u> (freq count)	<u>p</u>
<b>High yield</b>			
3Rs	10	16	.001
MUS	14	5	
SSC & LSC	1	6	
ART	1	8	
SM	0	0	
<b>Moderate yield</b>			
PRE	25	24	
SVT	2	1	
MAN	9	13	
<b>Low yield</b>			
SINP	18	15	
GAMES (Informal & Rule Bound)	11	15	
<b>Note.</b> Numbers in cells are based on occurrence 0/1 basis per child and not the frequency of times the task was observed. In other words each activity gets one count if observed. Number of times occurred were analysed by chi-square between the two groups on a per child basis. This was done so as to avoid any overlapping or clustering of frequencies in task cells.			

Put clearly, of the five cognitive 'stretching' by tasks the educationally orientated group spent significantly more time in these activities described as high yielding ( $df=3$ ;  $\chi^2=30.2$ ;  $p<.001$ ). There was no significant differences found between 'low yield' activities in the educational and care groups.

#### 6.6.2.1.3 Which tasks for how long?

Another aspect to consider when examining task activities is the duration of time involved at a given task. Previous research indicates a positive association between bout length (whereby the child is committed or concentrating on a given task) and cognitive challenge of the task (Hohmann, Banet & Weikart, 1979; Howes, 1990; Hutt et al., 1989; Moyles, 1989; Smith & Connolly, 1980; Sylva et al., 1980;1985). Quite sensibly, those tasks that promote the most challenge tend to have, on average, the longer duration of concentrated commitment from the child, e.g. 6-minute-average bout for art; 2.7 minute average bout for gross motor play; 1.3 minute average bout for cruising (shown in Table 4.2; Childwatching At Playgroup and Nursery School, Sylva et al., 1980).

For the Bahraini sample, the proportions of bout lengths (at/over the 3 minute length) per task activity were looked at comparatively across the two types of preschool settings: care and educational (Table 58). The three minute bout length was chosen as a gauge for comparison based on previous research which has demonstrated that different levels of concentration are associated with different task activities (excellent, good and moderate/poor: Sylva et al., 1980; Figure 24). It is not to suggest that concentration does not exist for shorter bouts of time and certainly different bout lengths have been considered elsewhere in the literature on time-sampled observations.

Table 58:

**'Bout' lengths for child-directed  
task activities by preschool  
orientation**

<u>Task Activity</u>	<u>Care</u> (% of bouts >3 min)		<u>Educational</u> (% of bouts >3 min)		
<b>Child-directed activities</b>					<b>Concentration Indicator a</b>
Large muscle movement (LMM)	59	(10)	61	(11)	m/p
Large scale construction (LSC)	0	(0)	50	(1)	g
Small scale construction (SSC)	0	(0)	80	(4)	ex
Art (ART)	0	(0)	88	(7)	ex
Manipulation (MAN)	78	(7)	62	(8)	g
Structured materials	nil		nil		
Three Rs Activities (3Rs)	56	(5)	81	(13)	g
Examination (EX)	nil		nil		
Problem-solving (PS)	0	(0)	46	(6)	
Pretend (PRE)	40	(10)	42	(10)	ex
Scale-version toys (SVT)	100	(2)	0		
Informal games (IG)	55	(6)	33	(5)	m/p
Games with rules (GWR)	nil		100	(1)	
Music (MUS)	69	(9)	58	(5)	
Social interaction, non-play (SINP)	22	(4)	27	(4)	m/p
Distress behaviour (DB)	nil		nil		
Standing around, aimless wander or gaze (SA/AWG)	0		0		
Cruising (CR)	0		25	(1)	m/p
Purposeful movement	18	(2)	50	(9)	m/p

**Note.** Numbers in parenthesis indicate the frequency of 3-minute bouts that occurred in a category, i.e. each occurrence was given a count of 1. Numbers and percentages are based on collected data for a 20 minute interval for each child, and not on the number of frequencies occurring in the 2400 minute sample. This was done in order to avoid any clustering (overlapping) of frequencies.  
a. ex=excellent; g=good; m/p=moderate-poor: levels of concentration associated with task activities (Sylva et al., 1980). Some activities, such as problem solving and GWR were not designated concentration indicators because they were considered embedded.

Table 58 shows clear differences between the proportions of three-minute bout lengths observed in several of the task activities across the two groups. Tasks described as providing 'excellent' and 'good yields' in terms of concentration showed higher proportions for the children at educational centres when compared with children at care centres. It appears from the results that children at care preschools not only spent less time at challenging task activities (Table 57) than their counterparts at the educational preschools, but also engaged less frequently in longer bouts of concentration (Figures 24).

#### 6.6.2.1.4 Adult-directed task activities

Adult directed activities such as tidying-up (DA); waiting (.04); PALGA and ADM (.02) were observed more often in care orientated settings (Table 56). These

findings were not surprising considering the emphasis placed on structure and routine (TQ, section 3.20) and the overall profile ratings from the previous ECERS results on care orientated provision. Overall, children at care preschools spent twice as much time in adult-directed activities when compared with the educational preschools (based on total observations: N=2400). In particular, activities such as art, music and 3Rs activities were typically 'staged' group activities and not geared towards the individual. They were regarded as tasks which all children do at the same time (ECERS findings, section 6.3). Exploration and discovery by way of art media and form were virtually non-existent in care orientated preschools and none of the care preschools provided easels for painting.

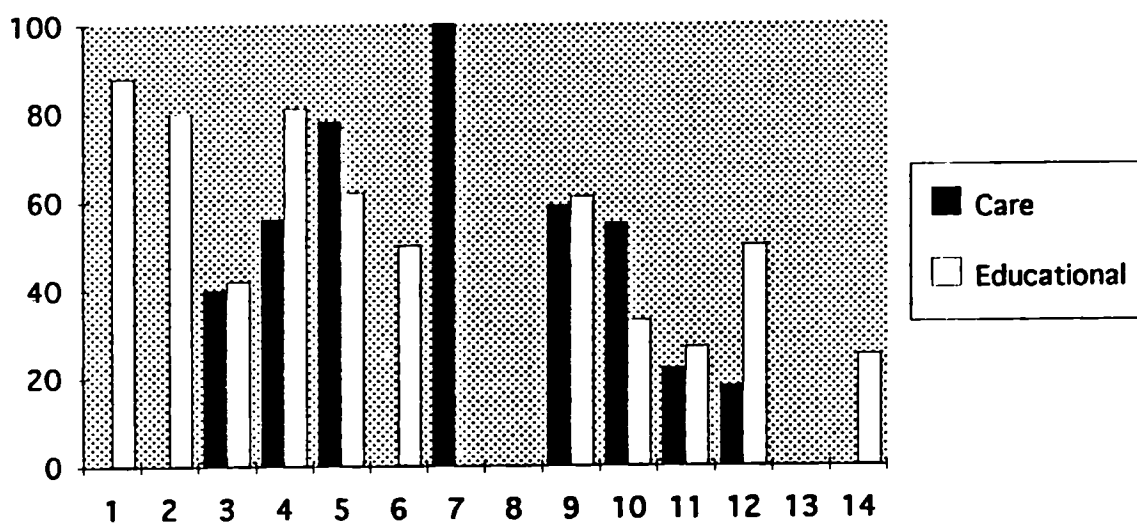
#### 6.6.2.2 Social settings (associated with play) compared between types of preschool orientation

One undisputed quality of play is that it provides a means and purpose for socialisation (Bruner, 1980; Clark, 1988; Sylva et al., 1980; Tizard & Hughes, 1984; Vygotsky, 1978; Moyles, 1989; Bruce, 1987; Schweinhart et al., 1993). According to Moyles (1989) parallel play is encouraged in most classrooms (UK). The Oxfordshire study (Bruner, 1980) found that children who played in pairs had high proportions of challenging play. In the same study, older children, when in the company of an adult, played at higher level tasks (4 1/2-5 1/2 years). Solitary play, while once thought of as an anomaly in the social content of play, that is, a less mature form of play, would more recently be modified with evidence to show that it is indicative of independence and maturity (Moyles, 1989; Rubin, 1982).



Figure 24:

**Bout Lengths (> 3 min) for Child-Directed Task Activities by Preschool Orientation**

**Tasks:**

1. ART
2. SSC
3. PRE
4. 3R's
5. MAN
6. LSC
7. SVT
8. EX
9. LMM
10. IG
11. Non-Play
12. PM
13. S/Awg
14. CR

**Concentration Levels**

1-3 Excellent

4-9 Good

10-14 Moderate/Poor

The TCCM used for this study has several different social code listings used for assessing the social context of play recorded in one-minute observations: TC alone (solitary); TC in pair; TC in a group; and TC parallel to others. Within these headings are specific social context categories. For example, TC parallel comprises SG/P, meaning small group with the TC working parallel; LG/P meaning large group with the TC engaged in a parallel activity; and PAIR/P where TC is with another child, but engaged in his own activity. For the purpose of comparison between the two preschool orientations, care and educational, the four social code listings were applied when recording social interaction behaviours while the child was engaged in an activity. Table 59 shows the mean scores in each of the social listings, according to group orientation.

Table 59:

**Comparison (mean differences) for social settings  
between care and educational centres**

	<b>care</b>		<b>educational</b>		<b>Z</b>	<b>p</b>
	mean	sd	mean	sd		
TC alone	.7	1.31	1.75	3.64	1.93	<b>.03</b>
In pair	1.47	3.43	2.8	4.39	2.11	<b>.02</b>
In group	13.75	7.14	8.6	6.99	3.89	<b>.000</b>
Parallel	3.45	5.01	7.1	7.03	3.06	<b>.001</b>

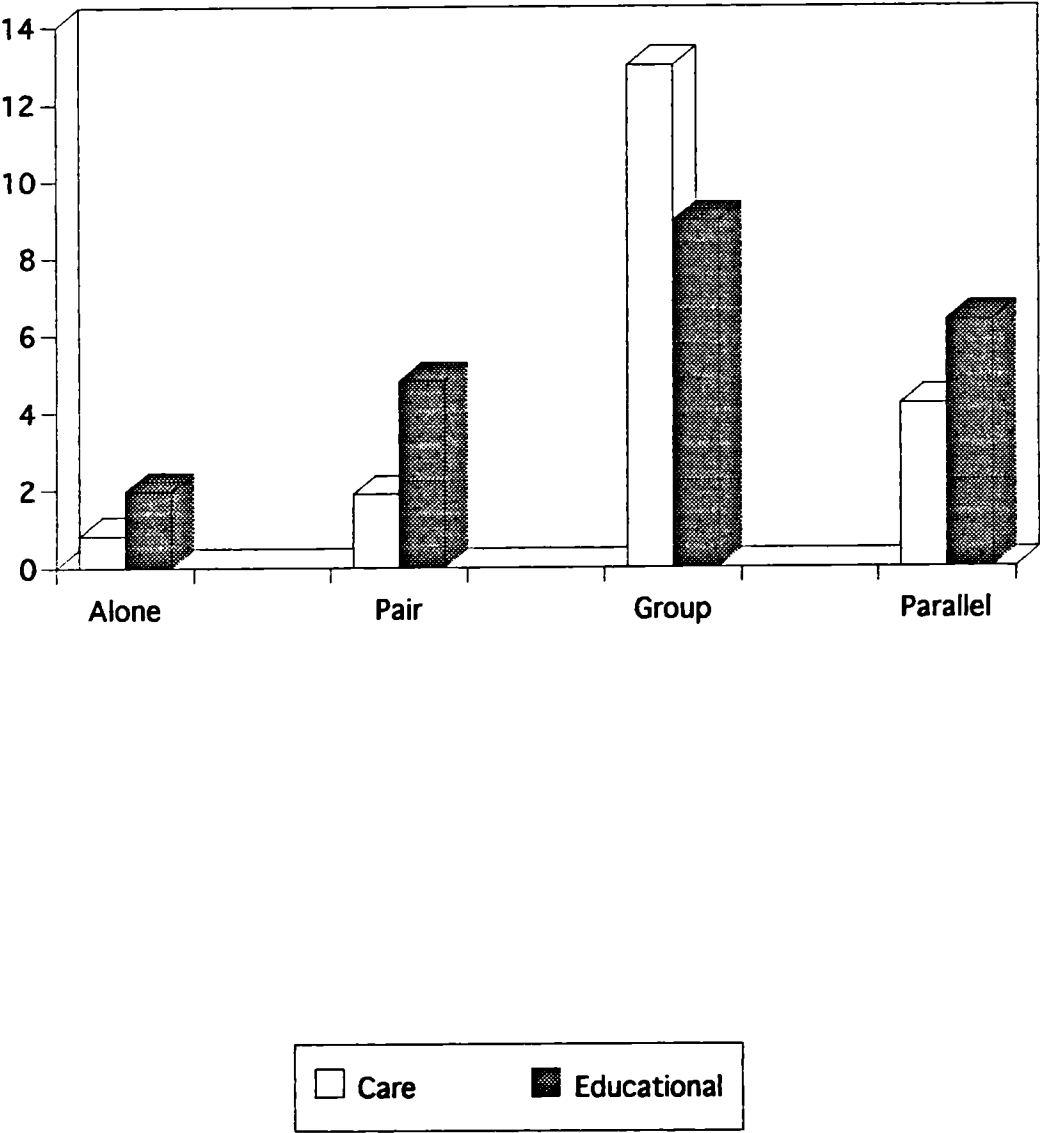
**Note.** the above comparison is based on collected twenty minute observation intervals for 60 children in each orientation (N=120) i.e. per child basis and not total frequency count. Compared differences were analysed by the Mann-Whitney U test using Z distribution table for samples >20 (Siegel et al., 1988). Z scores are based on mean rank scores and not mean scores.  
 TC Alone was a combined group: Solitary and (Sol), where ( ) indicates language exchange  
 In Pair was a combined group: Pair and (Pair)  
 In Group was a combined group: Small Group (SG), Large Group (LG)  
 Parallel was a combined group: SG/P; LG/P; Pair/P; (SG/P, LG/P)

The results show that children at educationally orientated preschools played more while in pairs, alone and in parallel social settings when compared to children at care orientated preschools. As expected children in care orientated preschools played more often in large groups, usually led by adults than children at educational centres.



**Figure 25:**

**Mean Scores for Social Settings: Children Engaged In Challenging Tasks**



For solitary play, there were those moments recorded in all preschools where the child was involved in imaginative role situations. Generally, though, solitary play was not encouraged nor thought of as insightful moments to be 'cherished' (Moyles, 1990) by the adult. Scarcity of toys and the restricted use of toys during free play periods appeared to play an important role in the results for challenging play when children were playing on their own.

#### 6.6.2.3 Adult involvement: Staff behaviours compared at care and educational preschool settings

There is wide agreement that the type and degree of adult involvement/interaction at preschool can make a profound difference on the quality of care provided (Ball, 1993; Bruce, 1987; Bruner, 1980; Christie, 1983; Clark, 1988; Moss, 1992; Moyles, 1989; Schweinhart et al., 1993; Sylva, 1993). As Bruner puts it, "the presence of an adult matters. . . even a passive adult not interacting with the child" (1980, p. 66). Furthermore, it is not only the type of adult involvement but also the staff ratio that seems to matter considerably (Ball, 1994; Beardsley, 1990; Benham et al., 1988; Farquhar, 1989; Fiene, 1992; Harms & Clifford, 1980; Moss, 1992). For this sample (ten preschools) the mean ratio for staffing varied considerably between the care preschools and the educational preschools, 1:23 and 1:14, respectively. To some extent, staffing ratios probably played an important role in behavioural differences noted between the types of provision, but, as this study did not specifically investigate the *effects* of this factor, there were no conclusive findings to support its role on children's and staff's behaviours.

To observe the staff behaviour in this sample, the seven different categories for describing the adult involvement were borrowed from the study of staff behaviour in *Monitoring the High/Scope Training Programme* (Sylva et al., 1985). They are defined as follows:

<u>Adult/away:</u>	adult is not present
<u>Adult/present:</u>	adult is near the target child but not involved in any direct way
<u>Adult/care:</u>	adult cares for the child's needs or comments, 'That is nice.'
<u>Adult/didactic:</u>	adult instructs, directs, or tells (adult is in control)
<u>Adult/support:</u>	adult supports child's questions; adult is a partner to the child
<u>Adult/extends:</u>	adult extends child's activity in an insightful way
<u>Adult/questions:</u>	adult asks questions (closed): 'How many are there? What colour is this?' (p. 68).

#### 6.6.2.3.1 Results: Staff behaviours

When the frequencies in staff behaviours were compared between the care and educational preschools (according to the seven adult codes) the results showed some similarities. From Table 61, the percentage of time staff were present with the target child or teaching (adult/didactic) were similar for both groups. The differences between the two types of provision became more distinct when the compared percentages of adult behaviours for caring, supporting and extending, were investigated (Table 61). These three adult behaviours; caring, supporting and extending, are often referred to as 'scaffolding', meaning that the adult relinquishes notions of power and control for a more amicable role as a facilitator/guide for the child (Bruce, 1987; Bruner, 1980).

Results (Tables 61, 62) confirm previous findings regarding staff attitudes compared in the care and educationally orientated preschools (Teacher Questionnaire, Chapter 3, section 3.2). Observers formed the impression that staff at the educational preschools facilitate and nurture learning more by *wanting* to participate with the child, i.e. by caring and supporting. In other words, they enjoy being, as Moyles puts it, "like a child, or at least, empathising with the child's views." (1990, p.168). Being with children is more than 'just a job'. (Interview, Head Directress, Mohammed Bin Saud Nursery School, East Riffa, 1992). According to Weikart (1993) when staff are supportive, involved and genuinely concerned about their students and their families, it provides the 'connecting link' for fostering long term gains for children (Schweinhart, Barnes & Weikart, 1993, p.18.)

<u>Adult involvement</u>	Care		Education		z	p
	mean	sd	mean	sd		
Adult/away	5.23	6.59	3.15	6.34	3.05	.001
Adult/present	7.85	5.76	6.63	6.58	1.43	.08
Adult/care	.07	.25	1.37	2.56	3.67	.000
Adult/didactic	6.13	6.10	5.27	5.93	1.19	.11
Adult/support	.15	.66	1.23	2.57	4.10	.000
Adult/extend	.07	.31	.4	1.24	1.63	.05
Adult/question	2.14	1.46	2.44	1.42	.81	.21

Note. Analysis based on per child observations with comparison by Mann-Whitney U test. Z scores were used for samples over 20 (Hinkle et al., 1988). Z scores are based on mean ranks, not mean scores. The categories are discrete, with Adult/Present meaning adult is with child but not interacting.

Further analysis was conducted to show differences, if any, between the two types of provision (care and educational) when the staff involvement was compared according to tasks which promote challenge (Table 63). Again, non-parametric statistical measures were chosen for analysis, thus allowing for no assumptions to be made regarding the shape of population distributions. While the Mann-Whitney U test cannot decide whether groups differed by their means, it can tell us whether one set of scores tend to be higher/lower than another set (Miller, 1989; Hinkle et al., 1988; Siegel & Castellan, 1988).

**Table 63:**

**Mean scores: Adult involvement in  
challenging tasks at preschool settings**

	<b>Care</b>		<b>Educational</b>		<b>Z</b>	<b>p</b>
	mean	sd	mean	sd		
<b>Adult away</b>	4.36	6.47	3.66	6.72	1.27	.10
<b>Adult present</b>	8	5.52	6.48	6.81	1.51	.07
<b>Adult care</b>	.05	.22	1.32	2.53	3.36	<b>.000</b>
<b>Adult didactic</b>	6.67	5.82	4.61	5.63	2.16	<b>.02</b>
<b>Adult support</b>	.15	.67	1.21	2.69	2.92	<b>.002</b>
<b>Adult extend</b>	.08	.35	.39	1.15	1.35	.09
<b>Adult question</b>	2.46	1.51	2.5	1.68	.03	.49

*Note.* mean scores based on observations per child in 20 minute intervals (N=120) and analysed by Mann-Whitney U test. Z scores are based on mean ranks, not mean scores.

Staff at care centres spent more time in directing and instructing lessons (adult/didactic) with teachers asking slightly more questions than those staff at educational centres. The results also indicate that the staff at the educationally orientated preschools demonstrated significantly more involved behaviours in caring and supporting children than those staff members at the care orientated preschools. Overall, teachers at care centres tended to interact with children with less concern when compared with teachers at educational preschools. Often this demonstrated lack of care may have been due to lack of knowledge and training, not will or desire. One problem teachers have demonstrated throughout this

*\*Note.* Staff qualify as those persons who are salaried for child care services and include teachers and teacher's aides, only. There were no volunteers noted in either care or educationally orientated preschools. Although, head directresses sometimes helped with the needs of children, they were not allocated the responsibility for the 'care' of the child while at school. Their role was mainly one of supervision and administration.



study is the inability to know when to intervene in child's play, e.g. when to help, when to converse with a child (Wood et al., 1980). In general, at most centres, there is a considerable amount of confusion surrounding the role of adults as co-partners in play. Most teachers seem unable to gauge which adult involvements are likely to nourish and which will hinder learning. As Table 62 shows, an adult was present (not interacting) for 38% of the total time children were observed playing. Another 31% of the total time was devoted to teaching (adult/didactic). The actual one-to-one time spent with a child, either by extending an activity, supporting or caring was less than 7% of the total time observed. Furthermore, nearly 74% of this percentage was accounted for by the staff at educationally-orientated centres.

In the more structured care settings, staff did not see themselves as facilitators of learning. They defined and understood their roles as 'teachers', in the traditional sense of the word, i.e. basically to control, instruct and discipline children. In the more educationally-orientated settings, there is evidence of similar tendencies yet teachers occasionally demonstrated some attention to individual needs and active learning strategies. For example, teachers at care centres were rarely seen on a rug, in a sand-pit or crouched in conversation at the child's level. The body language was clearly suggestive of an adult in control and dominating any child interactions. To a somewhat lesser extent, teachers at educational settings maintained control yet they were more willing to engage in child's play, e.g. sitting on the floor, swinging with a child, in the sand-pit, etc.

As shown, structure management and teaching practices do, in fact, dictate the involvement of adults (Wood et al., 1980). In this study, the lack of any teacher training and awareness programme coupled with other factors (management practices, staffing ratios, teacher attitudes and low teacher status), are assumed to play a major role in the differences between staff behaviours reported in these findings.

When considering the Adult/away category, which accounted for 22% of the total observed time (N=2400) the groups do not differ. While all children engaged in challenging tasks when adults were away, more children in educational preschools were observed engaged in challenging tasks with a greater number of concentration bouts (Tables 56, 57). Therefore, the care group had fewer recorded observed behaviours in challenging play with a higher proportion of adults not present. Some research indicates that children do better while adults are 'away' (Nabuco, unpublished manuscript, 1992; Rubin, 1982; Schweinhart et

al., 1993). According to Bruce (1987) when children manipulate, explore and discover, they need less direct help - they (the children) need indirect help which requires an adult who is informed about child development, the curriculum context and content, and who can interact sensitively with children. Other research, as mentioned, confirms that adult involvement makes a great deal of difference in child performance and, to some extent, reflects the quality of learning taking place. It may well be that when assessing adult interaction, as categorically either 'away' or 'present', the results as indicated here, do not conclusively qualify the findings as Bruce and others suggest. Children can play constructively without an adult provided the programme is structured imaginatively and systematically by trained and skilled staff, e.g. High Scope. Some clarification and explanation for differences found between the two orientation groups is provided when the other categories, such as adult/support, adult/care and adult/extend, are considered. It is not only important to consider absence or presence of an adult in a child's company but just *how* is the adult present and away. How is the adult interacting? In some respects some clues are offered in the following analysis of language interaction between adults and children.

#### 6.6.2.4 Language interaction at preschool centres

The Target Child Coding Manual (Sylva et al., 1980) includes nine language codes for recording timed observations in preschool settings. They are used to record what the child says; what other children say to the target child; and what adults say to the target child. The following abbreviations are used to describe the language and its interaction:

TC	Target Child
C	Another Child
A	An Adult (staff)
--	Speaks to

Examples of the coding system follow:

TC	talks to self/sings to self
TC unison	sings with group
A--TC	adults speaks to TC (one-off remark)a
TC--C/C--TC/TC--C	conversation; TC speaks to another child; exchange; dialogue
A--C+TC	adult speaks to TC + another child b
TC--A	TC speaks to an adult (one-off remark)
A--TC/TC--A/A--TC	dialogue between adult + TC with a of a 3-turn sequence
A--GR	adult speaks to a group (class)
C--TC	child speaks to TC (one-off remark)

#### 6.6.2.4.1 Results

Out of the 2400 one-minute observations, only 12 per cent contained connected conversation or dialogue which is described as a three-element exchange on a single topic (Sylva et al., 1980). Over half of this percentage was accounted for by conversation with children, with less than five per cent (4.8%) going to dialogue between children and adults. From this sample, children were two and half times more likely to address another child than an adult which was somewhat less than previous studies (Tizard et al, 1976b; Sylva et al., 1980). The largest proportion of timed observations contained no talk at all (34.5%). This closely coincides with the high numbers recorded for periods of waiting and watching in the previous analysis for task activity levels (Table 55).

Table 64.		
Proportions of observations for each language category code (TCCM)		
	#'s	%s
TC self + unison	122	5
A-TC	71	3
TC-A	429	18
C-TC	82	3.4
Dialogue with child	171	7.1
A-C+TC b	32	1.3
TC-A	59	2.5
Dialogue with adult	116	4.8
A-GR	482	20
None	826	34.5
1-off remarks (A-TC, TC-A, C-TC, A-C+TC & TC-A) a	673	28.2
Dialogue combined ( child & adult)	287	12
N	2390	100
<p><b>Note.</b> Approximately ten timed observations were not accounted for in this <u>total</u> due to ambiguous recordings or mis-recorded observations.</p> <p>a. one-off remarks are defined as single remarks, commands, gestures--they do not contain connected speech, dialogue or conversation</p> <p>b. A--C+TC: normally this category is used to record the adult reading to the TC and another child. As this did not occur in this sample, this code was used to record observations of the TC in the company of another child being addressed by an adult. All of these particular observations were instructive 'management-type' commands which were deemed as one-off remarks in the analysis</p>		

In both types of preschool settings there was a fair amount of chatter (28.2%). This consists of single, one-off remarks made between the target child with another child or an adult. It does not contain connected speech, in an exchange fashion. Such conversation seems to be most conducive in small, cosy corners and areas, of which few were to be found in this sample (Bruner, 1980; Garvey, 1977).

#### 6.6.2.4.2 Language interaction compared between the two types of preschool settings

When comparing the language recordings for the two types of preschool orientations (Table 65), care and educational, it was found that children and adults behaved differently in terms of communication. Children talked more with other children ( $p < .001$ ) and adults spoke more to children ( $p < .01$ ) in educationally-orientated settings when compared with children and adults in care orientated preschools. Children at care schools had more dialogue with other children than those children at the educational preschools. This tendency occurred in task activities, such as, Adult-Directed Art, Passive Adult-led Group Activities, Standing Around, Aimless Wander and Gaze, Waiting and Watching, i.e. activities described as requiring low yields in terms of concentration and cognitive stretch (Table 57). Overall, there was more combined dialogue (child-to-child and adult-to-child) at the educationally orientated preschools when compared with the care orientated preschools ( $z = 1.52$ ,  $p < .06$ ). This finding, in line with others would support the contention that those schools having higher staffing ratios (meaning more teachers per class) foster more talk between staff and children (Ball, 1994; Bruce, 1987; Bruner, 1980; Clark, 1988; Curtis, 1992; David et al., 1992; Wood & Wood, 1983).



For the category of one-off remarks, the educational group appeared to have higher recorded observations when compared with the care group ( $z=2.86$ ,  $p<.002$ ). Interestingly, the results showed that in educational centres adults spoke more to children in a group setting, while previous findings indicated that it was the children in care centres that spent the most time in groups, overall. It appears that while children were in groups at care centres they were quietly sitting and waiting most of the time (Table 59) with little talk or verbal interaction going on. This accounts for the significantly higher mean rank scores for the language category, none, for the care group.

Of brief mention is the category TC self + unison which was made up of daily recitations of religious poems and hymns from the Koran. While the educational group showed more recorded timed observations for this category, there was no significant differences noted between the groups.

The previous comparison of conversation (dialogue) between the two types of preschools orientations does not completely define 'differences' between language interaction at various preschools. There are many features which foster conversation in the preschools which have not been mentioned in this study, e.g. the planning of the setting, the adult's perception of their role, the teacher's style and the views the adults share regarding the child's competence (Wood et al., 1980).

#### 6.6.2.4.3 TCCM: Summary:

In general, children at both types of centres spent half the time observed playing and half the time waiting, watching and listening. This emphasises the rather 'traditional' structure management and adult-directed (control) focus of this sample (Teacher Questionnaire) in comparison to preschools which practice more active child-centred approaches to early years learning.

When the two preschool orientations, care and educational, were compared, several significant findings emerged:

### Task codes

1) Children at care preschools spent significantly less time at challenging task activities than the educational preschoolers (.001). They also, demonstrated shorter periods (bouts) of concentrated play in challenging tasks when compared to the children at the educational centres. Children at the educational preschools were engaged in challenging tasks two and half times more often than children at care preschools.

2) Children in care preschools spent twice as much time in adult-directed activities when compared with the educational preschools.

### Social codes

3) The children from the educational preschools played significantly more while alone, in pairs and in parallel social settings compared with children from the care orientated preschools. Children in care settings played more in group settings than children at educational centres. These findings were similarly reported for children engaged in challenging tasks: children in care preschools tended to engage more in group play while their peers in educational centres were more likely to engage in pairs, alone and parallel settings.

### Adult involvement codes

4) Staff at the educational preschools were significantly more involved than staff at the care preschools. They offered more support (.000), caring (.000) and extending behaviours (.05) to children (Table 63) than staff at the care centres.

### In the area of language.

5) Out of the 2400 one-minute periods observed 12% were connected conversation or dialogue. Less than five per cent of this dialogue was between the child and adult. Children were two and half times more likely to address another child than an adult. Children at the educational preschools were more likely to have dialogue with adults, while children at the care preschools were observed to engage in more child-to-child dialogue.

## **Chapter Seven**

### **Discussion 2:**

**Interpreting and explaining results from  
assessments of children and of preschool environments**

**The Early Childhood Environment Rating Scale**  
(Harms & Clifford, 1980)

**The Time-Sampled observations: Target Child Method**  
(Sylva, Smith & Moore, 1985)



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### Discussion 2:

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## Chapter Seven

### Discussion 2:

#### 7.0 Interpreting and explaining results from assessments of children and of preschool environments

This chapter addresses the research question, Are educationally orientated preschools providing 'a more favourable' environment when compared with care orientated preschools? The evidence from the two instruments used to assess preschool settings, the ECERS and the time-sampled observations of child and adult behaviours, indicated that there were distinct differences between settings. Educationally-orientated settings were more favourable environments for children not just in terms of offering more in the way of facilities and better working conditions, but more in terms of 'quality' child/adult interaction and involvement, e.g. dialogue with children, challenging tasks, extending activities in meaningful ways and adult caring. These favourable conditions are at the heart of early learning environments which offer good educational practice and care of high quality.

These findings did not use data collected by pre- and post measurements, as was the procedure for data collected for psychometric measures of children's development. Rather, the information was collected by observational techniques that were carefully prepared and checked for reliability using a second researcher. The goal was to describe what actually occurred in preschool settings that might account for the differing child outcomes found in the two kinds of settings.

ECERS provides a general profile of the characteristics of preschool settings (seven subscales) while the Target Child observational measure concentrated on the specific behavioural actions of children and adults. The former constitutes a global index score for the preschool surroundings, the latter yields a detailed measurement of interactions and behaviours. The combination of the two instruments demonstrated that environments which provide better resources (e.g., better working conditions, provisions for adults, more and varied materials and apparatus, different areas for different activities, adequate space for activities, personal and private spaces for children and adults, parent provisions and more adults per child) are the same environments that offer high child-adult interaction, more dialogue between adults and children, more children involved in challenging tasks for longer periods of time, and more

caring and supporting adult involvement. Confirmation of this strong correlation is provided in numerous reviews (Ball, 1994; Clark, 1988, 1989; Fiene, 1992; Hutt et al., 1989; Katz, 1993; Lamb et al., 1992; Moss & Melhuish, 1991; Pascal, 1993; Schweinhart et al., 1993; Singer, 1992; Sylva, 1990, 1993; UNESCO, 1993; Weikart, 1994; Zigler & Styfco, 1993).

While both measures used observational procedures, their specific techniques were quite different. The ECERS is a global rating scale while the TCCM is a series of 'snap shots' of observed behaviours. Further discussion will look at each instrument separately.

When the ECERS was applied on the two sets of preschools (six care orientated preschools and six educationally-orientated preschools) results showed consistently higher scores in all seven subscale areas for the educationally-orientated settings (Table 52). These higher scores represent two areas of preschool practice: a measure of quantity - a checklist of provisions and facilities provided, and a measure of quality - ratings stating the extent to which children and adults interact in a given setting. Some examples may help to illustrate. Item 29, under the subscale category of Social Development, rates the degree of free play on a scale of 1 to 7, with "little opportunity for free play with inadequate toys, games . . . provided" receiving a score of 1, to "ample opportunity for supervised free play outdoors and indoors with a wide range of toys . . . [and] Supervision used as an educational interaction. New materials/experiences for free play added periodically" indicating a score of 7 (Harms & Clifford, 1980, p.31). Another item in the Language/Reasoning Experience subscale shows lower scores that indicate a measure of quantity, while higher scores represent indices of both quantity and quality measures. For example, Item 11, Understanding of Language, gives a 1 or 2 rating for providing "few materials . . . and little use," to ratings of 6 and 7 as providing "many materials . . . plus teacher activities for children with special needs" (Harms & Clifford, 1980, p.19).

Overall, the total scores measure descriptors of quantity and quality characteristics in preschool environments (Harms & Clifford, 1983; McCartney et al., 1985; Benham et al., 1988; Kontos & Fiene, 1985; Fiene & Melnick, 1989).

Nevertheless, there are some serious gaps in ECERS as an instrument for assessing quality of early childhood programmes (mentioned in Chapter 1, section 1.1.4.2). Some of these include the dynamics of inter-personal relationships between the preschool working-triad (child-adult-parent) such as

respect, support, experience and personal values, all of which constitute vital characteristics of quality (Katz, 1993). Other aspects focus on providing greater security for children in terms of establishing familiar, responsive and attached adults in the environment (Tizard, 1986; Rutter, 1985). Further still, there is the important element of quality that must address parent support and involvement (Ball, 1994; Hughes, Wikeley & Nash, 1994; Pugh, 1988; Wolfendale, 1983). Most of these considerations are not directly addressed in the ECERS assessment procedure.

## **7.1 Interpreting ECERS results**

ECERS scale provides a descriptive and informative assessment for preschool environments. It can act as a yardstick to gauge overall preschool surroundings. It can also be of practical value to caregivers in alerting them on how their programme is meeting participant's needs. In other words, ECERS has proven to be a useful in-service training tool (Kontos & Stevens, 1985). While valuable in some respects, there are concerns on scientific aspects of the scale. Two such concerns are centred around the reported wide degrees of variability between the preschools sampled in some studies (Benham et al., 1988; McCartney et al., 1985) and the possibility that the instrument may be 'cultural specific' (Farquhar, 1989; Goelman & Pence, 1987 cited in Farquhar, 1989).

Clearly, the findings have demonstrated that educationally-orientated preschools provided better early learning environments when compared with care-orientated environments. In this study, as others, there has a wide variation between total index scores for each orientation group: 75-140 for the care group and 157-207 for the educational group. This is similar to other research findings which also show considerable variations. This suggests that there is a range of good quality practices within the educational sector and different degrees of lower quality care within the care orientated practices. Moreover, it suggests that certain specific preschools within a given orientation may be accounting for the overall differences, i.e. possible inflated or deflated index scores. Therefore, justifying quality in terms of a general index score may lend itself to inconsistent measures in terms of what qualifies as 'good' quality practices.

The other concern suggests some doubts about its use outside the US, where there is agreement about what is a high quality programme. As shown in many

cultures, characteristics of good quality practice may not be the same in terms of routines and practices that constitute good practice in America. For example, the subscale for Personal Care routines lists procedures and provisions for greeting children/parents, meals and snack provisions, grooming, resting and so on. Most cultures have very distinct customs and rituals for greeting, sleeping, eating and grooming which are carried over (and often reinforced) in the preschool arena. We only have to ponder the obvious customs in China, Saudi Arabia or places in Africa, to illustrate these obvious differences. Clearly, children's daily schedules, routines and practices take on different meanings in different cultures. Sometimes religious aspects play a dominant role (Hadeed, 1993) while in other situations, political norms dictate a significant role in preschool practices (Curtis, 1992; Lamb et al., 1992). Therefore, while there are clear indicators of quality that are assessable in most preschool practice such as favourable ratios, (Ball, 1994) it is doubtful that there is a single instrument that is capable of measuring all its characteristics within all cultural contexts. One multi-continent, longitudinal study currently in progress takes the view that instruments used across varying cultural contexts should not be unilaterally developed and then "imposed upon participating countries." Rather, data-gathering instruments need to be adapted to each country's cultural life, childrearing practices and 'national temperament' (Weikart speaking on the IEA Pre-primary Project in Yesterday, Today & Tomorrow, *High Scope Resource Magazine for Educators*. Summer 1994, p. 11).

For this study, the ECERS findings serve as a descriptive index of preschool conditions and surroundings, rather than a comprehensive measurement of quality. In this respect, we can say that the educational preschools provided 'more' in terms of materials and facilities and also 'more' in terms of conditions to support optimum use of the provisions available. For example, the items on the Creative Activities subscale (ECERS) showed that higher scores in the educational settings reflected greater availability and use of art materials. There was also more free choice, individual expression and variety in the use of art media and materials. Not surprisingly, this coincides with a structure management practice that leans towards a child-centred, active-learning approach and not, a rigid institutional one (TQ, section 3.2) in the educational settings.

## 7.2 Interpreting time-sampling observation results

Before moving onto the discussion of the second assessment used, the time-sampled observational procedure TCCM, it seems necessary to take pause and consider some notes on the advantages and disadvantages of observational methods.

Data collected by time-sampling methods provide actual accounts of behaviour as it happens, often without interruption or intervention. They offer a valuable means for describing and subsequently, measuring effective change and improvement in an existing process of learning and education. Yet, despite their unique advantages, findings by observational methods have inherent limitations. There are various influences in observational studies which may operate to impair the validity of results. Some of these factors are associated with the instrument's degree of reliability, such as instrument decay, the risk of observer bias and the observer's reaction to the observational process (Johnson & Bolstad, 1973; Patterson & Cobb, 1971; Rosenthal, 1966). Other factors which may pose limitations on the ability to make generalisations would be the lack of control of the research situation and the inability to draw causal conclusions (previously mentioned in section 1.90, Research & Methods). Most of these problems and ways of counteracting their influences and potential threats have been discussed in several reviews (Cohen & Manion, 1985; Plewis, 1985; Webb, Campbell, Schwartz & Sechrest, 1966; Weick, 1968; Wiersma, 1986; Wonnacott & Wonnacott, 1990).

The results of the time-sampled observations are in line with previous findings associated with the two types of preschool settings. In the active, child-centred settings (educationally-orientated) children played and concentrated more at challenging tasks than children at care-orientated settings. They also had more dialogue with adults and received more supportive types of behaviour from staff. Children at care centres played more in groups for all types tasks, including challenging ones and they spent more time in waiting, watching and listening to staff instructions when compared with children at educational centres. The considerable long episodes spent in these passive situations may have been due to a number of stressful factors placed upon teachers. Teachers in both settings, care and educational, tended to have higher staff/child ratios per classroom when compared to American and British standards (section 6.34, Table 52). Classrooms in the care orientation were often inadequately equipped with materials and facilities which added to the tension and discouragement for many teachers in their attempts to try to create stimulating

environments. This scarcity of toys and equipment tended to dull teacher's incentive and affected children's initiation, manipulation and 'exploration' with play (Hutt et al., 1989, p.11). Uninterrupted bouts of concentration were observed less frequently for children at care centres. This was largely due to the lack of materials present and the teacher's inability to accurately gauge or appreciate times when children were absorbed in tasks, i.e. they interrupted frequently, often with unnecessary chat. Previous research has indicated that there are appropriate and helpful times when the adult's involvement enhances a child's performance and equally so, there are times when the adult can work as a barrier. Appropriate timing requires consideration, respect and understanding for the child's need to learn independently (Montessori, 1967; Weikart, 1994). When an adult has given guidance, say, demonstrated the function of a task, it takes a wise and experienced adult to stand back and observe while the child explores independently. This often means allowing mistakes to happen and more importantly providing the space and uninterrupted concentration necessary for the child to 'correct' these mistakes. The difference between being told or shown how to correct a mistake and figuring it out for oneself, is crucial to the active-learning approach. Furthermore, timing, in terms of adult involvement in child's play, is critical and without its awareness the consequences may suggest that children at care centres are not receiving adequate time to 'absorb' (Montessori, 1967), accommodate (Piaget, cited in Sylva et al, 1982) or explore (Hutt et al., 1989). To elaborate further still, recent research justifies what we knew anecdotally years ago, that even positively intended reinforcement by an adult, such as praise and rewards may lower children's self confidence (Montessori, 1967; McMillan, 1904) and deter creative functioning (Isaacs, 1954). The emphasis, clearly at care orientated preschools was on group activities with little consideration given to individual needs unless they were of a physical (health, injury, trauma, etc.) nature.

There appears to be no single explanation for the behavioural differences (children/staff) observed at preschool centres. One possible cause may be related to familial background factors (FBQ, section 3.1.6). Parents of children at educational centres were more likely to play and read to their children than parents at care centres. They also had mothers who were slightly better educated (Table 2:  $\bar{M}$ =9.6 years for care mothers;  $\bar{M}$ =10.2 years for educational mothers). However these variables were weakly related (not significant) to child outcomes and therefore, they were not effective contributors to the observed differences in varying preschool practices. For example, while the mother's years of education variable showed significant differences between groups

(Table 2) when entered into the multiple regression models, this variable did not contribute to explaining children's varying outcome measures (performance).

Further important aspects of home life could not be considered in this study, such as maternal and paternal behaviours, family relationships, marital status, family life stresses, parenting practices, parental sensitivity/attachment and parenting risks (depression and abuse) (Hart, DeWolf & Burts, 1992; Howes & Olenik, 1986; Hutt et al., 1989; Rutter, 1985). These factors along with several other important facets which make up the child's surroundings have been shown to play influencing roles on the way children behave and perform in given preschool situations (Ainsworth, 1973; Belsky, 1984; Bronfenbrenner & Mahoney, 1975; Bruner, 1974; Meisels & Shonkoff, 1990; Rutter, 1985). There are also factors which go beyond the immediate surroundings of the child's family system, such as, major social, political, religious and economic systems which were not tested for as causal factors in this study. Rather, these factors interrelated in the ecological model were partially mediated through the cultural practices evident in the preschool practices, themselves (Meisels & Shonkoff, 1990).

However a more likely explanation of the results is that characteristics of the centres themselves, led to the differences observed in child/staff behaviours. The conducive surroundings for active-learning with more adult involvement (ECERS and TQ results) at educationally-orientated settings tended to provide more opportunity for children to engage in challenging tasks with longer periods of concentrated effort. The staff at educational centres had perceptions and attitudes of children's behaviour that varied from their colleagues at the care centres. They adopted a more caring, supportive attitude (scaffolding approach, Bruner, 1980) in assessing children, with less questioning (of the redundant kind) and interference. They allowed children more choice (Item 4), less punitive punishment (Item 11) and held higher regard for children's potential and abilities (Item 6, 12 & 22: TQ). As demonstrated in similar studies comparing various types of preschool provision, preschool management practices do directly influence behaviours and serve as an umbrella constituting preschool surroundings, attitudes and practices (Jowett & Sylva, 1986; Lazar et al., 1982; Schweinhart et al., 1993; Sylva et al., 1980; Tizard et al., 1976a; 1976b).

Generally, the time-sampled observations have provided a closer look at the various activities available in preschool units and which activities children



engaged in - with whom and for how long. The observations also measured children's language interaction with other children and adults, indicating ways adults involve themselves in different preschool settings. Combined, the picture of behavioural interactions suggests a causal model for children's performance (outcomes) at the varying types of preschool settings. The evidence shows that children at educational centres were more actively involved in learning. Child-initiated involvement was more evident and adults provided more 'facilitating' type behaviours when compared to conditions at care centres (Sylva et al., 1980). These factors, child-initiated, active-learning and adult scaffolding behaviours may have caused the differing child outcomes but only a full experiment would prove this for sure.

However, it is no surprise that children tended to perform better as a result of high quality preschool practice. The features of good practice, while measured only partially in this research, have been established and well documented in previous studies. Some of the key features associated with higher levels of child outcome include:

a balanced curriculum where children have free choice to engage in active-learning experiences

space and time allotted to explore individual interest in a well-planned, stimulating environment

positive, supportive and well trained staff who enjoy being with children

a commitment to understand, involve and, if need be, educate parents

good staffing ratios (the right balance) and adequate adult working conditions and pay

These key features of good practice are prerequisites to quality early learning environments (Ball, 1994). They lead to, in many cases, not only immediate short term cognitive, social and emotional gains, but they are linked directly with significant long-lasting social dispositions which effect adult performance later in life (Schweinhart et al., 1993).

### **7.3 A Summary of significant effects**

The principal hypothesis of this research was that educationally-orientated programmes will be associated with better outcomes for children by providing more favourable settings for early learning when compared to care-orientated and home situations.

To conduct this study, 140 children (matched on many familial and background variables) were selected (intact groups) from eight preschools (stratified random sample) for the assessments of children's performance (aspects of cognitive, social and emotional development). Preschools were classified according to their management practices, curriculum approaches and staff teaching attitudes, as either educationally-orientated or care-orientated. A home group (control) was also studied in which children did not attend any preschool provision. Educationally-orientated preschools were identified as more child-centred, active-learning centres where adults encouraged children to be as independent constructors of self, i.e. active learners. Care-orientated practices tended to have adult-directed, institutionalised management and teachers acted mainly as controllers of children's behaviours, i.e. children as dependent learners.

Slightly larger samples were chosen to assess the preschool environments. For the ECERS rating scale, twelve preschools were selected (previously matched on background variables and selected by stratified sampling procedures) with six centres represented in each orientation group (care and educational). The detailed timed observations (2400 one-minute observations) of children and staff behaviours were recorded from 120 children drawn from ten preschool, half of which were represented in each orientation group.

#### **7.3.1 Children's Performance**

The short-term pre- and post-test design (quasi-experimental) allowed for cognitive, social and emotional outcomes to be measured over a period of approximately nine months. The composite profile of performance includes three measurements of intelligence (SB, WPPSI-two subtests, DAP) one measure of social competence and acceptance (PSPCSA) and a procedure for identifying the incidence of behavioural/emotional problems (PBCL). The aim is to consider several aspects of development which represent an interrelated,

composite view of behaviour (Bronfenbrenner, 1977; Bruner, 1980; Meisels & Shonkoff, 1990).

The findings at post-test indicated that children attending educationally-orientated programmes significantly outperformed their counterparts in care programmes and at home, on all measures assessed. They not only had higher scores on the psychometric measurements, but also on emotional and social behaviour as well as self concept, such as school competence and social acceptance. Furthermore they were better behaved than children at care-orientated centres. All children assessed as having behavioural/emotional problems at post-testing were found in the care practices (Chapter 4, Table 33: prevalence rates for care=36.4%; educational=0%). The conditional model for analysis (Plewis, 1986) allowed for statistical control over factors which may have resulted from the non-randomness of sampling. Each individual analysis for a given assessment showed that most family background variables were not significantly related to outcome measures. Sex, as an explanatory variable, was the only factor that indicated a positive effect on performance, with boys affected more than girls, e.g. significantly higher scores for boys on SB, DAP #2 & #3 drawings, Block Design Subtest, and the PBCL.

Not only did children at educational centres out-perform their colleagues at care centres and home, but the conditional model analysis showed that they kept their lead over time, in fact, they improved. The differential effects that emerged for outcome measures suggest that preschool factors played a decisive role in different outcomes at different preschools.

The important qualifications offered when considering the results from the children's outcomes (IQ measures, social and emotional measures) are:

- 1) The confounding religious effects on performance scores, particularly presented in the results from the Draw-A-Man assessments (Chapter 4, section 4).
- 2) The cultural effects mediated in the administration of tests. Although careful procedures were followed for selection and training of Bahraini nationals (college grads) to administer tests, the researcher was at all times, present. This was extremely unusual. Preschools of the nature and type used in this sample (all national, and Arabic) had little, if any,

exposure to foreigners. There was also a lack of familiarity with investigative research for all persons involved--administrators, teachers, parents, children and ministry official in government i.e., this research is the first of its kind on preschool education in Bahrain. Due to these conditions there may have been some reactivity to the observer.

- 3) There is always the possibility that no matter how accurate the translation procedures are procured, there is some margin for error (Brislin et al, 1973). The thorough back-translation imposed, coupled with multi-lingual volunteers, helped to mediate some of the misunderstandings throughout this research but there were occasions when terms and definitions did overlap.
- 4) Although basic background explanatory variables and descriptive family indicators were considered, it was beyond the scope of this research to investigate (at this time) other factors, such as parenting attitudes, childrearing practice, etc. in further detail. Further research hopes to elicit a fuller picture of the lifestyles and family conditions in this cultural context.
- 5) Another qualification to the findings concerns the initial higher pre-testing scores in educational settings. It seems likely they were caused by the extra 'learning' children acquired in their preschool centres before the study began. Initial differences were statistically controlled but they are not fully explained.
- 6) As mentioned, there is always the possibility that an instrument may be culturally specific, even when carefully checked on measures of reliability and validity. What this means is that some instruments may be more or less 'sensitive/insensitive' to varying cultures where they are applied. In the vicinity of the Middle East region where this research took place, there is little evidence on the use of some of these instruments (PBCL, PSPCSA). It may be some time before enough evidence is compiled to establish the cultural adaptiveness of these instruments.
- 7) While outcomes show immediate short-term gains, there is also the consideration that what is deemed as progress on a short-term basis, may take on different meanings over a sustained long term research design (McKey et al., 1985; Lazar et al., 1982; Osborn & Milbank, 1987; Schweinhart et al., 1993).

Having qualified a few of the major concerns surrounding outcomes measures, none of the above negate the important significant differences found in this research.

### **7.3.2 Significant effects associated with environmental preschool differences**

Both observational instruments used to assess preschool environments (ECERS and TCCM) helped to explain differential progress made by children in the two types of preschool provision (care and educational).

#### **7.3.2.1 ECERS**

ECERS results, treated as a global yardstick to measure descriptive aspects of children's surrounding at preschool, showed that facilities and provisions significantly differed in care and educational preschools (Table 50:  $\bar{M}$ =106.7 care;  $\bar{M}$ =178.3 educational). Children who attended educationally-orientated preschools were more likely to experience better facilities in terms of quantity and variety of materials; more adult involvement and dialogue, provisions for space to explore and experiment, more free play time, more creative activities and better working conditions for teachers (Chapter 3). When these results were correlated with structure management practices and teacher's attitudes (TQ Chapter 6, section 6.3.5) the correlations were positively and significantly correlated. The association indicated that as environments leaned more towards institutional type settings and practices (care-orientated) the environmental index scores decreased, indicating less favourable conditions for early learning.

It would follow that the management practices and staff attitudes are closely integrated with the environments offered at the two types of preschool settings. Based solely on quantitative measures of environmental contents (ECERS), preschools varied considerably according to orientation. Care preschool centres are often inadequately supplied with materials. Official standards are low (or often neglected) and trained teachers are few in number. This crippling

combination of factors tends to produce low teacher morale (on top of low pay and status) and overall, poor programme provision.

Setting quality issues aside, the issue of quantity may be misunderstood in light of recent research. It is widely known that research, primarily from Western developed countries, have established and recognised certain standards which constitute essential quantity measures for good practice (Ball, 1994; Bruner, 1980; Curtis, 1986; Hutt et al., 1988; Lamb et al., 1992; Sylva, 1990; Weikart, 1994; Pascal & Bertram, 1993; Schweinhart et al., 1993; Tizard et al., 1988). While several of these quantity measures serve as valuable guidelines for other countries, it would be misleading to suggest that they prescribe all the essential components necessary for preschool conditions that exist in developing and underdeveloped countries. For example, in this research it was found that many classrooms had few if any ready-made materials at their disposal and teachers (untrained) were expected to make all of necessary materials for the environment. The appearance of classrooms, the equipment and its use, are mainly dependent upon the creativity and resourcefulness of individual teachers (often done at their own expense). In turn, classroom environments often represented poor attempts at providing materials rich and conducive for independent child interaction (fine motor materials, reading, writing materials, etc.). Many displayed commercial advertisements from the Western media and an abundance of flashy, comic-like props which were used for lessons that required memorisation by rote learning (alphabet, numbers, colours, etc.). While much of this is done clearly for the benefit of the teachers, more seriously, it reflects the lack of understanding concerning what would provide culturally appropriate measures for quantity in good preschool practice. A future direction for teacher training and practice (in Bahrain) should not blindly accept what works best or seems appealing elsewhere (none of the teachers in this sample have travelled outside the Arab region). Rather, it needs to adapt and create, with a trained eye, what materials in the preschool environment will enhance and promote the unique cultural, political, social and religious values and norms in their own given country (Lamb et al., 1992; Olmsted & Weikart, 1989; Sontag & Meijnen, 1993; Weikart, 1994).

#### 7.3.2.2 Time-sampling

To explain differential effects on children's performance, time-sampling observations (N=2400 one minute observations) revealed some important clues

as to why children fared better in educationally orientated centres. In the ten preschools used for this study (five educationally-orientated and five care-orientated) children, overall, spent half of the total observed time in play and the other half of the time was spent in waiting, watching or passive listening to adults. When the preschools were compared for differences, the children at educational centres engaged in challenging tasks two and half times more often than children at care centres. They also spent significantly longer periods of time (bouts) at challenging tasks and were more likely to play alone, in pairs or parallel alongside others, while children in care centres spent twice as much time in adult-directed activities and preferred to play in groups more. These findings are in line with previous demonstrated findings in research which has compared various preschool settings (Clark (Ed.), 1988; Davie et al., 1984; Field, 1991; Howes, 1990; Jowett & Sylva, 1986; Lazar et al., 1982; Olsen & Zigler, 1989; Osborn & Milbank, 1987; Schweinhart et al., 1993).

Physical play, while popular in both preschool groups (Chapter 6, section 6.6.2.1.1, Table 56) was mainly restricted to the outdoors (Hutt et al., 1988). Teacher tended to discourage physical play indoors and there was a tendency for teachers to oversee the importance of movement as an inextricable part of the whole process of child development (Bee & Mitchell, 1984; Blenkin & Kelly, 1987; see Appendix P). It was mainly viewed as a measure to 'let off steam' (Hutt et al., 1988, p.213) although teachers at educationally orientated centres were more inclined to accompany children in the sand pit, play in group games outdoors and swing alongside another child at the swing set.

Generally, staff at educational preschools engaged in more child-oriented teaching behaviour, lending more support (.000), more caring (.000) and more extending (.05) types of behaviour to children (Table 61) than staff at the care centres. In so doing, they (staff) engaged in more dialogue with children at educational centres, while children at care centres engaged in more dialogue with other children. Overall, the percentage of dialogue was 12%, with five per cent of this proportion accounted for between an adult and child. Compared with other research investigating various types of provision, this appear to be typical - children at preschool centres do not engage in elaborate conversations, but rather engage in chat, one-off remarks and questioning (Bruner, 1980; Sylva et al., 1980; Tizard et al., 1976b, 1988; Wood & Wood, 1983).

#### **7.4 Some implications**

Collectively, the results from both sets of data, the children's outcome measures and the environmental descriptive measures, have discriminated between two types of preschool provision in Bahrain (care orientated preschools and educationally-orientated preschools). The initial three hypotheses have been verified. Educationally orientated preschools have demonstrated more favourable learning environments and they are associated with greater progress over time, as measured by several assessments of child development.

The quasi-experimental design of this research has allowed for a conservative analysis of the results by employing a conditional statistical model (Plewis, 1985). It has enabled the researcher to consider explanatory variables and accounts for differential causal effects from varying preschool treatments which have been mentioned throughout this research.

For those responsible for policy and practice in Bahrain these findings can:

- 1) assist in the on-going and future teacher training programmes for preschool educators in Bahrain
- 2) provide a yardstick for identifying and dichotomising various types of preschool provision in Bahrain
- 3) aid policy makers in their planning, constructing and implementing of future preschool models in the region
- 4) suggest quantity and quality criteria measures for good preschool practice
- 5) suggest areas of future research needed in the field of early childhood education

These suggested implications are directed towards those who share the legal and moral responsibility for the education and development of young preschool children in Bahrain (state and local ministry officials, directors/owners and staff at preschool centres, faculty and staff providing teacher training at Bahrain University and parents).



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## **Appendix A:**

### **Pilot Study**

The field work for the pilot study was conducted over a period of two months-- November and December 1991. The main objectives for this stage of investigation were two fold: (1) To field-test the outcome instruments, asking the questions, are they appropriate? Can they be administered? (2) To secure full co-operation and commitment of the centres involved, explaining what they must do to assist.

### **Pre-field work**

Prior to the actual pilot testing stage, a year was spent visiting, interviewing and observing nearly half of the total preschool institutions in Bahrain (27 out of 60). Questions of a general nature were asked i.e., number of students, number of classes, number of teachers, teacher training programme and experience, operating hours, tuition fees, teacher salary range, type of preschool affiliation (private, public or other), parent programmes and education, aims of preschool programme, and special events and holidays. This interview took approximately one hour. Following the interview, observations were made of the classroom, i.e. each classroom representative of the ages at the preschool centres were observed. Comments and notes were made on the condition of the preschool setting (structure of the building - good, fair or poor condition), size of indoor and outdoor space for children (some classrooms were actually measured), amount and type of learning material and apparatus available, child/teacher ratio, method of teaching (child-centred or adult-directed), cleanliness and organisation in classrooms, presence or absence of child's work in view, and teacher/staff attitudes. These observations were not time-sampled but rather empirical comments.

A final report on the information and comments made in this initial pre-field work investigation was submitted to the Ministry of Private Education in May, 1990.

Meetings and interviews were also conducted at this pre-pilot stage in order to state the research objectives, discuss its application and secure the co-operation and assistance needed for its implementation. These meetings were with the Department of Education, the Department of Private Education, the Department of Social Affairs and Labour, Bahrain Institute for Scientific

Research in Science and Education, and faculty members at Bahrain University.

Official letters, requesting the co-operation with the head teachers, staff and students at the preschool centres in the sample, were given at this time (Appendices E & F).

### **Sample**

Four preschool centres were selected according to their educational or care orientations and the socio-economic background of the children they served (validation for the classification of preschool orientation was established in the Teacher Questionnaire, using the Revised Child Management Scale (RCMS) by King, Raynes & Tizard (1971); and the Staff/Foster Parent Attitude Scale (ST/FPAS)). Two of the preschool centres were educational and two were care in orientation and all served children of working class families.

Six students, half boys and half girls, were selected from each preschool centre. The child's age, sex, parent's education and occupation, were matched for background. Those children who did not fit the age criteria or who could not be classified as low SES, were excluded from the sample.

The list of children from each centre, including information about the child's background and family status was made with the help of the directress of each centre (all females). The children's ages ranged from 3 years 10 months to 4 years 8 months. The mean age was 4.1 years (educationally orientated preschools) and 4.3 years (care orientated preschools). The mean ages for boys and girls was 4.3 years and 4.2 years, respectively. Most of the fathers were employed (95%) and worked as semi-skilled workers in clerical government jobs, government social and agricultural projects, and light industry. Most of the mothers were unemployed and were housewives. The mothers who worked were employed as clerical workers, nursery school teachers, and hospital aides. Their work was generally of a part time nature. The number of working mothers accounted for less than 10% of the total pilot sample taken from the preschools.

### **Procedure**

To study the effects of preschool experience on children, a number of assessments were applied on aspects of cognitive development, personality and social development. For cognitive development, the following were

applied: the Stanford-Binet Form L-M; WPPSI--Arithmetic Subtest and Block Design Subtest; and Draw-A-Person by Goodenough. Personality and Social development were assessed by The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSA); and the Preschool Behaviour Checklist by Richman, Stevenson and Graham. In all, six different instruments were administered during the pilot study.

In co-operation with faculty staff workers at the Bahrain University, four volunteers were secured for the pilot testing. All were graduate students in the Department of Education or Psychology at Bahrain University. Two of the students were married with children of their own and all had some experience with young children. One student had previous experience in research with an established research centre in Bahrain.

A preliminary volunteer training session was held over a period of two days for approximately three hours per day. On both days the research, sample and the instruments were discussed. Volunteers were encouraged to demonstrate and ask questions about each of the instruments procedures, and responses. After this initial training, each student volunteer was met individually to further discuss the application of the instruments, the children in the preschools, the directresses and any further questions. Each volunteer was assigned to one preschool centre at this time and they were not told which schools were educationally orientated or care orientated.

Due to the nature and extent of the number of assessments, the following order for their administration was followed:

- Day 1: Administered Draw-A-Person. The pilot sample for each was divided into three groups with two children in each group.  
Administration time was less than 1/2 per group.
- Day 2: Administered The PSPCSA . This test took approximately thirty to forty-five minutes per child.
- Day 3: Discussed the Preschool Behaviour Checklist with the head teachers and explained the necessary procedures for their administration.

Day 4: Administered the Stanford-Binet and the WPPSI subtests for three of the six children at each preschool centre. The WPPSI subtests were administered first, followed by the Stanford-Binet. Testing time was approximately one hour to 1 1/2 hour per child.

Day 5: Followed same procedure as Day 4, for three more children.

Each volunteer was accompanied by the researcher throughout the testing of assessments in the pilot sample.

There were two reasons for using the prescribed order of administering the tests above. First, bearing in mind the time involved for each instrument, it was felt that the shorter-timed tests at the beginning stages would allow the volunteers to gradually ease their way into the preschool environment. On Day 2, the volunteer requested the head teacher to administer the PSPCSA. This period gave the volunteers the opportunity to work with the head teacher, discussing the subtleties of the testing procedures and the students involved (attitudes, opinions, details, foreseeable problems, etc.) The lengthy test, the Stanford-Binet and the WPPSI subtests were saved for the final stages. Children, staff and volunteers were quite comfortable by this time and despite the individual time required for testing, few difficulties arose.

## **Appendix B:**

**BACK-TRANSLATION PROCESS** (Brislin, Lonner & Thorndike (1973). *Cross-Cultural Research Methods: Comparative Studies in Behavioural Science*. pp. 32.57. Wiley.

This back translation process requires one bilingual to translate from the original to the target language, then a second bilingual blindly translates back to the original. The researcher then compares the two original language versions and makes inferences about the quality of the target. The back-translation process was applied twice for these tests. This technique is described as a de-centring sequence which goes from original to target, to original, to target, to original (Brislin et al, 1973). This allows for the original language terms that do not translate well to be filtered out and replaced by terms which have equivalence in the target language.

## **Appendix C:**

According to Achenbach, Verhulst, Baron & Althaus (1987),

"any cut-off point is an approximation whose utility depends on variations in the phenomena being assessed, errors of measurement, base rates in a particular population, and the function the cut-off is to serve. Because cut-off points are usually established at the extreme of a distribution, their exact placement can be affected much more by a few extreme scores than are measures of central tendency, such as the mean, which are determined by the entire distribution of scores. The exact score chosen as a cut-off on the tail of a distribution should therefore not be viewed as a fixed and immutable figure, but as guide for making decisions" (p.447).

Researchers frequently use the median or mean to dichotomise a variable. (Achenbach & Edelbrock, 1978; Richman, Stevenson & Graham, 1982; Rutter, 1967; Tizard & Whitmore, 1976). The cut-off points used in this study were placed conservatively below the median/mean - splits for both the S/M and the SAS. Furthermore, this researcher has been reminded that 'one has to accept that there is always some ambiguity when we convert 'coninua' into categories.' ( Demetre, 1992).

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a. Achenbach, T., Verhulst, F., Baron, G., & Althaus, M. (1987). A Comparison of Syndromes Derived From the Child Behaviour Checklist For American and Dutch Boys. *Journal of Child Psychology and Psychiatry* 28 (3) pp.437-453.









**Appendix E: Letter 1: Ministry of Education, Department of Private Education. Permission granted for research investigation in preschools in Bahrain (English & Arabic)**

**STATE OF BAHRAIN  
MINISTRY OF EDUCATION**



**دولة البحرين  
وزارة التربية والتعليم**  
ادارة التعليم الخاص

الرقم : ٨٩/٠٢٩

في : ١٩٨٩/١٠/٢٢ م

السادة الافاضل مديري ومديرات دور رياض الاطفال والمدارس الخاصة المحترمين

تحية طيبة وبعد،

تعد السيدة جنولي حديد بحثا يتعلق بمرحلة رياض الاطفال في البحرين . ولما كان الاعداد لهذا البحث يتطلب قيام الباحثة بالعديد من الزيارات الميدانية لدور رياض الاطفال وصفوف الروضة بالمدارس الخاصة خلال العام الدراسي ٩٠/٨٩ ، فان ادارة التعليم الخاص تأمل منكم تسهيل عمل الباحثة المذكورة .

وتفضلوا بقبول التحية والتقدير ،،،

\_\_\_\_\_  
مريم الدوي  
مديرة ادارة التعليم الخاص

22/10/94

To the staff and adminstator of the preschool concerned,

Mrs. J. Hadeed is presently compiling a research having to do with the development of children in Bahrain. This research will require the researchers to undertake many personal visits to playgroups and kindergarden classrooms in private schools during the academic year of 89/90. Therefore, the Ministry of Education hopes for your cooperation and assistance to the researcher named above.

Thank you for your time and cooperation.

Mariam Al-Doy  
Minister of Private Education  
State of Bahrain

Appendix F: Letter 2: Ministry of Education, Department of Private Education. Permission to conduct research on sampled preschools (English & Arabic).

STATE OF BAHRAIN  
MINISTRY OF EDUCATION  
PRIVATE EDUCATION DEPT.



دولة البحرين  
وزارة التربية والتعليم  
إدارة التعليم الخاص

الرقم ٩ / ١٨٣٢ /

في ١١ / ٩ / ١٩٩١ م

الفاضلات طيرات سور رياض الاطفال ..... المحترمات

تحية طيبة وبعد ،

تعد السيه جولى حديد بحثا يتعلق برياض الاطفال فى دولة البحرين ولما كان  
الاعداد لهذا البحث يتطلب قيام الباحثة بالعديد من الزيارات الميدانية لدور رياض الاطفال  
بالأضافة الى اجراء بعض الاختبارات على عينة البحث والتي سيتم اختيارها من أطفال  
الرياض ، فان ادارة التعليم الخاص ترحب بكم تسهيل عمل الباحثة المذكورة

وغضلو بقبول فائق التحية والاحترام ، ، ،

مريم الدوي

طيرة ادارة التعليم الخاص

November 8, 1991

Dear Administrator/Head Teacher,

Your school has been carefully selected to participate in an important research project. This project will enable us to enrich our knowledge about Bahraini preschool children and preschool education and care in Bahrain.

This study will require your co-operation and assistance which will be greatly appreciated. You will be regularly informed of our progress and notified before any official arrangements are made to visit your school.

Thank you for your time and co-operation.

Sincerely yours,

  
Mrs. J. Hadeed



































المؤهل الدراسي (يمكن التاثير لى اكثر من خانة اذا دعت الحاجة).

(٦)

شهادة ابتدائية / اعدادية  
شهادة ثانوية  
مدرسة المعلمين

الفترة من ..... الى .....  
شهادة جامعية  
دراسات عليا

ما عدد الاعوام التى قمت بها بتعليم اطفال الحضانة

(٧)

اقل من عام  
١ - ٥ اعوام  
٦ - ١٠ اعوام  
١١ - ١٥ عاما  
١٦ - ٢٠ عاما  
اكثر من ٢٠ عاما

هل لديك مسئوليات محددة لى الحضانة

(٨)

لا  
نعم - يرجى التحديد  
.....

هل اتتعت مؤخر ا بلى دورات تدريبية كان لها اثر ايجابى لى اداك .

(٩)

لا  
نعم . يرجى ذكر التاريخ  
من ..... الى .....  
عنوان الدورة .....  
الجهة (الى الشخص المنظم للدورة) .....

## استبيان للمدرسات

يرجى الاجابة على الاسئلة التالية بالتاثير لى الحالية المتوسطة . هناك بعض الاسئلة المتعلقة بك واسئلة اخرى تتعلق بالمدرسة التى تعملين بها . تجدر الاشارة الى عدم وجود اجابات مبيحة واخرى خاطئة ، وكل ما ننتد قياك بى الاجابة حسب الاستقامة .

### الخطبة الشخصية

(١) الجنس

ذكر ☐  
انثى ☐

(٢) المجموعة العمرية

٢٠ عاما او اقل  
٢١ - ٢٩ عاما  
٢٠ - ٢٩ عاما  
٤٠ - ٥٠ عاما  
لوق المعلمون

(٣) الحالة الاجتماعية

غريبا  
متزوجة  
مطلقة  
حالات اخرى

(٤) هل لديك اطفال

نعم  
لا

ما عددهم

(٥) الجنسية

بحرينية  
جنسية اخرى  
(يرجى التحديد)

الامثلة التساليسه تتعلق بالمدسة التي تعملين بها . يرضى الاجابة الامكان برسم دائرة حول الجواب . شكر ا.

الادارة /

(١) هل ينتظر الاطفال سوية في مجموعات قبل الاكل ؟  
 لا احد ينتظر . الكل مشغول في مكان اخر .  
 البعض ينتظر .  
 الجميع ينتظرون .

(٢) هل ينتظر الاطفال سوية في مجموعة لاستعمال الحمام  
 لا احد ينتظر . كل يذهب على انفراد .  
 البعض ينتظر .  
 الجميع ينتظرون .

(٣) هل يجلس الاطفال سوية على الطاولة (او على الارض)  
 ينتظرون قبل ان يأكلوا وجبتهم الكفيفة ١ او وجبة  
 الخبز ٢  
 اكثر من عشرة دقائق .  
 ١٠ - ٢٠ دقائق  
 اقل من خمس دقائق .

(٤) هل يستخدم الاطفال المسلمي او الحديقة في اوقات  
 محددة .  
 نعم في اوقات محددة فقط .  
 تحت ظروف معينة .  
 لا باستطاعتهم استداعه متى شاؤوا .

(٥) هل يتوقع من الاطفال المشاركة في نفس النشاط  
 عندما يكون الاطفال سوية ؟  
 احيانا  
 نعم ، في جميع الاوقات

(٦) هل يعطى الاطفال في طابور قبل دخولهم الصف من  
 الخارج .  
 لا احد يعطى  
 البعض يعطى  
 الكل يعطى

(٧) هل يسمح للاطفال بطلب الامساك من منازلهم ؟  
 غير مسموح  
 يسمح لهم بالاحتكاك بالامساك لمدة محددة ثم  
 يتحول الى ملكية جماعية .  
 نعم ويسمح لهم بالاحتكاك بها كملكية  
 فردية .

(١٠) هل تمكنين في منطقة قريبة من عملك (مسافة لا تزيد عن  
 كيلومترات)

نعم ☐

لا ☐

١٣١ كان الجواب بالنفي فالمسافة التي تقطعينها  
 يومية للوصول الى عملك (في اتجاه واحد) .

اكثر من ٥ كيلومترات ☐

اكثر من ٥ - ١٠ كيلومترات ☐

اكثر من ١٠ كيلومترات ☐

(١١) ما هي الوسيلة التي تستخدمينها للوصول الى العمل .

الحافلة ☐

السيارة ☐

المشي ☐

وسائل اخرى ☐



- (١٦) هل يستطيع تمليق مور الأطفال ودروساتهم وأعمالهم المدرسية في العمل ؟  
 نعم في كل العمل .  
 أحياناً لا  
 ١  
 ٢  
 هل يتم تمليقهم في مستوى نظر الطفل ؟  
 لا في بعض الممارس  
 نعم  
 ١  
 ٢  
 كم من الوقت مخصص للمب كل يوم ؟  
 على الأقل ساعتين .  
 على الأقل ساعة واحدة .  
 أقل من ذلك .  
 ١  
 ٢  
 هل تقوم المنظمة بإدارة جميع النشاطات (الرحلات والدروس والنشاط الرياضي ، الخ ) طوال اليوم ؟  
 يهيئ النشاطات .  
 الكثير من النشاطات .  
 كل النشاطات تحريراً .  
 ١  
 ٢

(١٨)

(١٧)

- (٨) هل يسمح للأطفال بطلب الكتب من المنزل ؟  
 الكل مستوح له بذلك .  
 البعض يسمح له بذلك .  
 لا أحد يسمح له بذلك .  
 ١  
 ٢  
 (٩) هل يطلب من الأطفال ارتداء الزي الرسمي ؟  
 الكل يطلب منه ذلك .  
 لا أحد يطلب منه ذلك .  
 أحياناً يطلب منهم ذلك .  
 ١  
 ٢  
 (١٠) أين يحتفظ الأطفال بملابسهم الشخصية ؟  
 في أماكن تخزين لردية .  
 في أماكن تخزين في تخزين ممتلكاتهم .  
 في أماكن تخزين مشتركة .  
 ١  
 ٢  
 (١١) هل يقوم جميع المعلمين في الحضانة بتناول الطعام مع الأطفال ؟  
 كل المعلمين يجلسون مع الأطفال .  
 بعض المعلمين يجلسون ويتناولون الطعام ، والبعض الآخر يجلس ولا يأكل .  
 والبعض يجلس ، والبعض يجلس ، والبعض الآخر يترك .  
 ١  
 ٢  
 (١٢) هل يقوم جميع المعلمين في الحضانة بمساعدة الأطفال عند استعدادهم للحمام ؟  
 كل المعلمين يقومون بذلك .  
 بعضهم .  
 لا أحد يقوم بذلك .  
 ١  
 ٢  
 (١٣) هل لدى الأطفال حريّة التنقل في جميع أنحاء الحضانة ؟  
 الكل باستقامته ذلك في معظم الأوقات .  
 البعض يستطيع ذلك في بعض الأوقات .  
 لا أحد .  
 ١  
 ٢  
 (١٤) هل باستطاعة الأطفال استخدام كافة الأدوات المتوفرة في الحضانة ؟  
 الكل يستطيع ذلك في كل الأوقات .  
 البعض يستطيع ذلك في بعض الأحيان .  
 لا أحد يستطيع ذلك .  
 ١  
 ٢  
 (١٥) ما نسبة الأطفال الذين تم إصابتهم في رحلات خارجية في الثلاثة أشهر الأخيرة ؟  
 ٣٣٪ - ٣٢٪  
 ٣١٪ - ٣٠٪  
 ٣٠٪ - ٢٩٪  
 ٢٩٪ - ٢٨٪  
 ٢٨٪ - ٢٧٪  
 ٢٧٪ - ٢٦٪  
 ٢٦٪ - ٢٥٪  
 ٢٥٪ - ٢٤٪  
 ٢٤٪ - ٢٣٪  
 ٢٣٪ - ٢٢٪  
 ٢٢٪ - ٢١٪  
 ٢١٪ - ٢٠٪  
 ٢٠٪ - ١٩٪  
 ١٩٪ - ١٨٪  
 ١٨٪ - ١٧٪  
 ١٧٪ - ١٦٪  
 ١٦٪ - ١٥٪  
 ١٥٪ - ١٤٪  
 ١٤٪ - ١٣٪  
 ١٣٪ - ١٢٪  
 ١٢٪ - ١١٪  
 ١١٪ - ١٠٪  
 ١٠٪ - ٩٪  
 ٩٪ - ٨٪  
 ٨٪ - ٧٪  
 ٧٪ - ٦٪  
 ٦٪ - ٥٪  
 ٥٪ - ٤٪  
 ٤٪ - ٣٪  
 ٣٪ - ٢٪  
 ٢٪ - ١٪  
 ١٪ - ٠٪  
 ٠٪ - ١٠٠٪



- (٣٦) يهين الانقياد على الامام التعليمية لى خزانين بعيدة عن مستغول الاطفال حتى تقرير المعلمة حلول وقت استغادها .  
 اعارض ١ ٢ ٢ ٤ ٥  
 بقوة
- (٣٧) ١٤١ استفتح ان طفل ما يريد كيت مشاكل وابقاها لنفسه فمن الطفل عدم اخذه على الكلام عنها .  
 اوافق ٥ ٤ ٢ ١ ٥  
 بقوة
- (٣٨) محاولة التفتيش بمق عن مشاكل الاطفال يشكل محاولة للمدرسات  
 اوافق ٥ ٤ ٢ ١ ٥  
 بقوة
- (٣٩) عندما يفتلق الاطفال على عائلاتهم لان من الاطفال مساعدتهم على تبيان ذلك .  
 اعارض ١ ٢ ٤ ٥  
 بقوة
- (٤٠) معظم الاطفال لا يفرق بين الامام والخطا .  
 اوافق ٥ ٤ ٢ ١ ٥  
 بقوة
- (٤١) الاطفال المستبشرين لى المشاكل هم امالك الذين يتشكون بفترة ويستبدون الارواح .  
 اوافق ٥ ٤ ٢ ١ ٥  
 بقوة

بالتالي يمكن ان يكون هذا النوع من التقييمات مفيداً في تحديد المشاكل التي تواجهها المعلمة في التعامل مع الأطفال، ويمكن استخدامها في تطوير الممارسات التعليمية.

كلالة بطرق عموماً لا يسمح باعادة طاعة او استعلاء او استخدام اي جزء من هذه الوثيقة سواء كان ذلك يتم بطرق الكوربة او ميكانيكية او اي طرق اخرى موروثة الان او يتم ابتكارها في المستقبل، خلافاً ذلك الصوري والسجل او التوزيع في النسخة اسرجاع المبررات، دون الحصول على الموافقة الخطية المسبقة من المؤلف.

ARTICLE REDACTED DUE TO THIRD PARTY RIGHTS OR OTHER LEGAL ISSUES









































Appendix J: The Wechsler Preschool and Primary Scale of  
Intelligence (WPPSI): The Arithmetic & Block  
Design Subtests (Translated and Adapted) with  
Scoring Sheets (Arabic & English) - الحساب

ARTICLE REDACTED DUE TO THIRD PARTY RIGHTS OR OTHER LEGAL ISSUES







































## Appendix K: The Test Manual:

### The Goodenough-Harris Drawing Test (Translated and adapted into Arabic) with Scoring Guide

Date of drawing		التاريخ	
Name of child		اسم الطفل/الطفلة	
Boy	Girl	ولد	بنت
Age	Birth date	العمر	تاريخ الميلاد
Name of school		اسم المدرسة	
Grade		الصف	
Father's occupation		عمل الوالد	



Draw a picture of a man.

ما رسم صورة رجل

Make the very best picture you can.

Draw the whole man,  
not just his head and shoulders.

Make your first drawing here

	1.	41.
	2.	42.
	3.	43.
	4.	44.
	5.	45.
	6.	46.
	7.	47.
	8.	48.
	9.	49.
	10.	50.
	11.	51.
	12.	52.
	13.	53.
	14.	54.
	15.	55.
	16.	56.
	17.	57.
	18.	58.
	19.	59.
	20.	60.
	21.	61.
	22.	62.
	23.	63.
	24.	64.
	25.	65.
	26.	66.
	27.	67.
	28.	68.
	29.	69.
	30.	70.
	31.	71.
	32.	72.
	33.	73.
	34.	
	35.	
	36.	
	37.	
	38.	
	39.	
	40.	

Draw a picture of a woman.

رأسم صوره امراه

Make the very best picture you can.

Draw the whole woman,  
not just his head and shoulders.

Make your second drawing here

	1. 41.
	2. 42.
	3. 43.
	4. 44.
	5. 45.
	6. 46.
	7. 47.
	8. 48.
	9. 49.
	10. 50.
	11. 51.
	12. 52.
	13. 53.
	14. 54.
	15. 55.
	16. 56.
	17. 57.
	18. 58.
	19. 59.
	20. 60.
	21. 61.
	22. 62.
	23. 63.
	24. 64.
	25. 65.
	26. 66.
	27. 67.
	28. 68.
	29. 69.
	30. 70.
	31. 71.
	32. 72.
	33. 73.
	34. _____
	35. _____
	36. _____
	37. _____
	38. _____
	39. _____
	40. _____

Draw a picture of yourself.

اسمك

Make the very best picture you can.

Draw your whole self,  
not just his head and shoulders.

Make your third drawing here

	1. 41. _____
	2. 42. _____
	3. 43. _____
	4. 44. _____
	5. 45. _____
	6. 46. _____
	7. 47. _____
	8. 48. _____
	9. 49. _____
	10. 50. _____
	11. 51. _____
	12. 52. _____
	13. 53. _____
	14. 54. _____
	15. 55. _____
	16. 56. _____
	17. 57. _____
	18. 58. _____
	19. 59. _____
	20. 60. _____
	21. 61. _____
	22. 62. _____
	23. 63. _____
	24. 64. _____
	25. 65. _____
	26. 66. _____
	27. 67. _____
	28. 68. _____
	29. 69. _____
	30. 70. _____
	31. 71. _____
	32. 72. _____
	33. 73. _____
	34. _____
	35. _____
	36. _____
	37. _____
	38. _____
	39. _____
	40. _____

**Examiner's Notes**

<b><u>Summary</u></b>			
	<b>Raw Score</b>	<b>Standard Score</b>	<b>Percentile</b>
<b><u>Point Scale</u></b>			
<b>Man</b>			
<b>Woman</b>			
<b>Average</b>			
<b>Self</b>			
<b><u>Quality Scale</u></b>			
<b>Man</b>			
<b>Woman</b>			
<b>Average</b>			

كافة الحقوق محفوظة. لا يسمح باعادة طباعة او استساخ او استخدام اي جزء من هذه الوثيقة سواء كان ذلك يتم بطرق الكترونية او ميكانيكية او اي طرق اخرى معروفة الان او يتم ابتكارها في المستقبل، شاملا ذلك التصوير والتسجيل او التخزين في أنظمة اسرجاع المعلومات، دون الحصول على الموافقة الخطية المسبقة من المؤلف.

**Appendix K****The test manual**

**ARTICLE REDACTED DUE TO THIRD PARTY RIGHTS OR OTHER LEGAL ISSUES**



\*For use only after the scoring requirements have been mastered.

**Appendix K****The test manual****Short scoring guide\*****Man point scale****ARTICLE REDACTED DUE TO THIRD PARTY RIGHTS OR OTHER LEGAL ISSUES**  


\*For use only after the scoring requirements have been mastered.

المقياس المصور للكفاءة الإدراكية  
والتقبل الاجتماعي لدى الأطفال الصغار  
صحيفة تسجيل واحتساب الدرجات الفردية

اسم الطفل	العمر	الجنس	ذكر	انثى
الصف / الفصل	المدرس (ة)	تاريخ الفحص		
ترتيب العينة ووصفها	المعرفة	المقبول لدى الأصدقاء	الكفاءة البنية	المقبول لدى الأم
١) اجادة حل الاحججيات	١			
٢) له /لها الكثير من الاصدقاء		٢		
٣) اجادة التاراجع			٣	
٤) الام تبسم				٤
٥) الحصول على نجوم لقاء الواجب	٥			
٦) المبيت عند الاصدقاء		٦		
٧) اجادة التسلق			٧	
٨) الام تاخذك الى اماكن				٨
٩) معرفة اسماء الالوان	٩			
١٠) له /لها الكثير من الاصدقاء للعب		١٠		
١١) اجادة ربط الاحذية			١١	
١٢) الام تطبخ الاطعمة المفضلة				١٢
١٣) اجادة العد	١٣			
١٤) له /لها الكثير من الاصدقاء في الملعب		١٤		
١٥) اجادة القفز			١٥	
١٦) الام تقرأ له /لها	١٦			١٦
١٧) اجادة الابدجيه				
١٨) يطلب منه /منها اللعب مع الاخرين		١٨		
١٩) اجادة الجري			١٩	
٢٠) الام تلعب معك				٢٠
٢١) معرفة الحرف الاول من الاسم	٢١			
٢٢) تناول طعام العشاء عند الاصدقاء		٢٢		
٢٣) اجادة القفز على قدم واحد			٢٣	
٢٤) الام تتحدث معك				٢٤

مجموع العاود  
( المقياس الجزئي )

Index L: The Pictorial Scale of Perceived Competence and Social Acceptance. Test booklets for boys and girls and recording sheets. (Arabic).

متوسط العاود  
( المقياس الجزئي )

{ المجموع مقسوما على ٦ }

كافة الحقوق محفوظة. لا يسمح بإعادة طباعة أو استنساخ أو استخدام أي جزء من هذه الوثيقة بدون إذن من المؤلف. ذلك يتم بطرق الكروية أو ميكانيكية أو أي طرق أخرى معروفة الآن أو يتم ابتكارها في المستقبل. ذلك التصوير والتسجيل أو التخزين في أنظمة استرجاع المعلومات، دون الحصول على الموافقة الحقة من المؤلف.

الملاحظات :

The Pictorial Scale of Perceived Competence and  
Social Acceptance (PSPCSA)

المقياس المصور للكفاءة الإدراكية

والتقبل لدي الأطفال الصغار

وسائل الإيضاح - سنين الحضانه والروضه

١٩٨٠

جامعة دنفر

Manual for Girls



## × التعليمات

تعطي الطفل المثال الموجود في صدر الكتيب وتعطي التعليمات كالتالي:

لدي هنا شيء وكأنه لعبة مصوره تسمى " أي هذه الفتيات مماثله لي " . سأروي عليك ماتفعله كل من هذه الفتيات في الصور .

مثال : في هذه الصورة ( يقوم الممتحن بالإشارة الى الصورة علي اليسار ) ، هذه الفتاة عادة ما تكون سعيدة ، وهذه الفتاة (يقوم الممتحن بالإشارة الى الصورة على اليمين ) عادة ما تكون حزينة . الآن ، اريدك ان تبلغيني أي هاتين الفتاتين أكثر مماثله ل ( اسم الطفل ) .

بعد ان تقوم الطفل بالإشارة الى الصورة الملائمة لها ، يقوم الممتحن بالإشارة الى الدوائر الواقعة مباشرة تحت الصورة ويشدد علي الكلمات التأكيدية لمساعدة الطفل علي توضيح اختيارها . وعلي الممتحن دوما البدء بالدائرة الأكبر ويواصل نحو الدائرة الأصغر .

فاذا اشارت الطفل الى الصورة السعيدة استجابه للسؤال "اي الصور أكثر مماثله لها" علي الممتحن ان يقول :

هل انت دائما سعيدة ؟ ( مشيرا الي الدائرة الأكبر )  
ام هل انت عادة ماتكونين سعيدة ؟ ( مشيرا الى الدائرة الأصغر )

احيانا تقوم الطفل بالإشارة الى وسط الصورتين وتقول أن كلا الصورتين مماثلتين لها ، وعلي الممتحن ان يقول حينذاك : " بلى ، نحن احيانا نشعر بكلتا الحالتين ، ولكن اذا كان عليك ان تختاري اي من هاتان الفتاتان مماثله لك معظم الوقت ، ايهما ستختارين .

تسجل القيمة العددية المطابقة لاختيار الطفل على صحيفه تسجيل واحتساب الدرجات الفرديه " . يجب تسجيل أي ملاحظات في المكان المخصص لذلك اسفل الصفحة .

× يمكن استخدام نفس هذه التعليمات عند اختيار الصبيان وذلك بتغيير ضمائر المخاطبين إلى المذكور.

## جزء الفتيات

### مثال على الأسئلة

هذه الفتاة عادة ما تكون حزينة .

هل انت :

دائما حزينة عادة ما تكونين حزينة

٢ م ١

هذه الفتاة عادة ما تكون سعيدة

هل انت :

دائما سعيدة عادة ما تكونين سعيدة

٤ م ٣



































































































































































































































## Appendix M: The Preschool Behaviour Checklist (PBCL) (Translated and Adapted Into Arabic)

بسم الله الرحمن الرحيم

### إستبيان عن سلوك الأطفال

معلومات عن الأطفال : إسم الطفل / الطفلة : \_\_\_\_\_  
تاريخ دخول الروضة : \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ ولد \_\_\_\_\_ بنت \_\_\_\_\_  
وظيفة الأم : \_\_\_\_\_ وظيفة الأب : \_\_\_\_\_  
أيام و ساعات الحضور الأسبوعية : \_\_\_\_\_ عمر الطفل : \_\_\_\_\_ سنة \_\_\_\_\_ شهر \_\_\_\_\_  
فترة معرفتك بهذا الطفل : \_\_\_\_\_

مرفق أدناه قائمة بالسلوكيات التي يمارسها الأطفال الصغار، لذا نرجو وضع إشارة صح (✓) أمام الوصف الذي يصف الطفل بصورة جيدة، وإن كنت غير متأكد فإختاري البديل الذي تربيته ملائماً.

- (١) ١ - كثير الحركة و قلما يجلس ( لتناول الطعام مثلاً ) أكثر من خمس دقائق و دائم الركض  
ب - نشيط جداً لا يجلس عند اللزوم  
ج - معتدل الحركة يجلس عند اللزوم  
د - قليل النشاط يميل الى الخمول
- (٢) ١ - محبوب من الأطفال الآخرين  
ب - غير محبوب من بعض الأطفال  
ج - غير محبوب من أغلبية الأطفال
- (٣) ١ - لا يبول على نفسه أثناء النهار ( أقل من مرة في الأسبوع )  
ب - يبول على نفسه مرة أو مرتين في الأسبوع  
ج - يبول على نفسه ثلاث مرات أو أكثر في الأسبوع
- (٤) ١ - مدرب على إستعمال الحمام، لا يوسخ ملابسه أبداً  
ب - يوسخ نفسه مرتين ( الفانط ) على الأكثر في الأسبوع  
ج - يوسخ نفسه ثلاث مرات أو أكثر أسبوعياً
- (٥) ١ - لا يركز أكثر من ٥ دقائق على متعة اللعب  
ب - متفاوت التركيز و أحياناً يستمتع بالتركيز على متعة اللعب  
ج - جيد التركيز لمدة ١٠ دقائق أو أكثر على متعة اللعب
- (٦) ١ - السيطرة عليه صعبة ( غير مطيع و يقطع نشاطات المجموعة )  
و ذلك بشكل يومي  
ب - يكون أحياناً مشاغباً و غير مطيع و يقطع المجموعة  
ج - تسهل السيطرة عليه و التحكم به
- (٧) ١ - قلما يحتاج الى عناية كثيرة  
ب - يحتاج الى الكثير من العناية و التركيز أحياناً، ولكن يمكنه أن يلعب و يعمل بشكل مستقل  
ج - يحتاج لرعاية باستمرار، و كثيراً ما يحتاج مساعدة أو حمل أو يحوم حول المدرسات أغلب الوقت
- (٨) ١ - يتهمته و يتعلم، و غير واضح في الكلام  
ب - غير واضح الكلام أحياناً  
ج - واضح الكلام و سهل الفهم
- (٩) ١ - يتكلم بمرية : ١ - مع المدرسين ٢ - مع الأطفال  
ب - يتردد في الكلام أحياناً  
ج - لا يتكلم أو كثير التردد في الكلام
- (١٠) ١ - غير حاد المزاج  
ب - حاد المزاج أحياناً ( لبعض دقائق فقط )  
ج - له نوبات حادة طويلة مثل الصراخ و الرفس
- (١١) ١ - يلعب مع الآخرين و إجتماعي جداً  
ب - يتردد في اللعب مع الأطفال الآخرين و يشاركهم أحياناً اللعب  
ج - لا يلعب أبداً مع الأطفال الآخرين و يتجاهلهم



- (١٢) أ - ينتحب و يشكو كثيراً للمدرسات  
ب - ينتحب و أحياناً يشكو للآخرين  
ج - لا يشكو أبداً
- (١٣) أ - حماس جداً يغضب لانتفه الاسباب دائماً  
ب - ينزعج أحياناً لاسباب تافهه  
ج - لا ينزعج أو يفلق بسهولة
- (١٤) أ - قليل التشاجر مع الأطفال الآخرين (مثل الغسب و الصراع و المعنى)  
ب - يتشاجر أحياناً مع الأطفال الآخرين  
ج - يتشاجر دائماً مع الأطفال الآخرين
- (١٥) أ - يقضي معظم وقته في التجوال بدون هدف و السرحان  
ب - يقضي بعض من وقته في التجوال بدون هدف و السرحان  
ج - دائماً يقضي وقته بأعمال مفيدة فلا يتجول أو يسرح
- (١٦) أ - دائم التدخل في شؤون الأطفال الآخرين (يخرب لعبتهم و قيادتهم)  
ب - أحياناً يتدخل في شؤون الأطفال الآخرين  
ج - لا يتدخل في شؤون الأطفال الآخرين
- (١٧) أ - لا يبكي أو يبدو غير سعيد سوى لفترات قصيرة عند الجوع أو المرض أو التعب  
ب - يبكي أحياناً لفترات طويلة  
ج - يبكي دائماً لفترات طويلة و لايام كثيرة
- (١٨) أ - يشاكس الأطفال الآخرين  
ب - أحياناً يشاكس الأطفال الآخرين  
ج - لا يشاكس أبداً الأطفال الآخرين
- (١٩) أ - شديد الإنطواء.. بعيداً عن المدرسين  
ب - منطوي من المدرسة أحياناً ولا يستجيب إلا لشخص واحد فقط  
ج - يفتوره التجاوب مع الجميع
- (٢٠) أ - قلما يتلف الالعاب و المعدات  
ب - أحياناً يتلف و يرمي الأشياء بشكل متعمد  
ج - دائماً يتلف الأشياء و يخربها
- (٢١) أ - شديد الخوف دائماً  
ب - أحياناً يخاف  
ج - يخاف نادراً جداً
- (٢٢) يرجى وضع علامات تصف العادات كما يلي :  
(٠) صفر - إذا كان ذلك الأمر لا يحدث  
(١) واحد - إذا كان يحدث لمدة قصيرة  
(٢) إثنان - إذا كان يحدث دائماً و لمدة طويلة
- الإهتزاز  
مص الصبيح  
الرخاعة بالزجاجة  
رخاعة وهمية  
شد الشعر أو مصه  
خرب الرأس  
عادات أخرى

كافة الحقوق محفوظة. لا يسمح بإعادة طباعة أو استعساخ أو استخدام أي جزء من هذه الوثيقة سواء كاد ذلك هم بطرق الكروية أو ميكانيكية أو أي طرق أخرى معرولة الآن أو يتم ابتكارها في المستقبل، شاملا ذلك التصوير والتسجيل أو التخزين في أنظمة استرجاع المعلومات، دون الحصول على الموافقة الخطية المس من المؤلف.

استبيان للمشاركين في دورة تدريب المعلمينلبرنامج الطفولة المبكرة في جامعة البحرين - 1993

(جوكن حديد)

الهدف من هذا الاستبيان هو استطلاع آراء المشاركين في برنامج تدريب المعلمين وتقييمهم للبرنامج والقائمين عليه وذلك بغية تحسينه والارتقاء به في المستقبل. اننا نولي آرائكم اهمية خاصة، ولذا فاننا نكون شاكرين لكم لقيامكم بالاجابة على كافة الاسئلة التالية بوضوح وصراحة حيث ان كافة الاجابات ستحاط بالسرية التامة، وشكرا.

1 - العمر \_\_\_\_\_

2 - الجنس ذكر \_\_\_\_\_ انثى \_\_\_\_\_

3 - الحالة الاجتماعية اعزب \_\_\_\_\_ متزوج \_\_\_\_\_

4 - عدد السنوات الدراسية التي اتممتها

الثانوية \_\_\_\_\_

الجامعية ( يرجى الاشارة الى آخر سنة دراسية اتممتها) 1 2 3 4

هل التحقت ببرنامج تدريب للمدرسين/ المدرسات في السابق؟ نعم \_\_\_\_\_ لا \_\_\_\_\_

اذا كانت الاجابة نعم يرجى تحديد المكان \_\_\_\_\_

مدة البرنامج \_\_\_\_\_

الجهة المنظمة للبرنامج \_\_\_\_\_

5 - هل تعتقد ان كافة المدرسين والمشرفين على البرنامج كانوا على قدر عال من الكفاءة في مجال تقديم وشرح المواد الدراسية؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

اذا كانت الاجابة "لا" فای من المواد \_\_\_\_\_

6 - ما هي المادة التي استمتعت بدراستها او تلك التي كان لها الفائدة العظمى؟

اسم المادة \_\_\_\_\_

7 - بصورة عامة، هل تشعر ان البرنامج كان مركزا على الناحية النظرية مهملا بذلك المهارات العملية والمعرفية؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

8 - هل قمت بزيارة انواع مختلفة من الحضانات ورياض الاطفال خلال البرنامج؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

هل كنت تود القيام بعدد اكبر من الزيارات الى هذه المدارس خلال البرنامج؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

9 - هل سنحت لك الفرصة للتحدث مع المدرسين والاداريين في هذه المدارس في مواضيع تخص مرحلة الدراسة قبل الابتدائية وتطور الطفولة؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

هل كانوا مفيدین ومتعاونين نعم \_\_\_\_\_ لا \_\_\_\_\_

10 - هل تعتقد ان عدد المتدربين في البرنامج

أ) كان العدد صحيحا \_\_\_\_\_

ب) قليل جدا \_\_\_\_\_

ج) كبير جدا \_\_\_\_\_

11 - هل تشعر انك تلقيت اهتماما مباشرا وشخصيا في كافة مراحل البرنامج؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

إذا كانت الاجابة "لا" يرجى التحقيب

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12 ) اذ طلب منك اقترح بعض التغييرات في البرنامج للارتقاء به فأى من المجالات التالية تود تغييرها (يمكنك الاشارة الى اكثر من مجال)

أ) ساقترح تغيير المقرر الدراسى، على سبيل المثال الواجبات المنزلية، التركيز على مواضيع الكتب المقرره، الخ.

ب ) ساقترح تغيير المدرسين

ج ) ساقترح تغيير مدى التركيز على المهارات العملية

الاكتثار من المهارات العملية \_\_\_\_\_

التقليل من المهارات العملية \_\_\_\_\_

انواع اخرى من المهارات العملية \_\_\_\_\_

د ) ساقترح تغيير كل شيء بشكل عام حيث ارى شخصا ان البرنامج يدار بصورة هزيلة ومهلهله

هـ ) لن اقترح اى تغييرات حيث ان البرنامج ممتاز كما هو.

13 ) هل سنحت لك الفرصة في اى من المقررات الدراسية عمل مواد ولوازم لاستخدامها في الصفوف الدراسية والتدريس؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

هل تعتقد ان هذه التجربة كانت مفيدة؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

14 ) هل قمت بحضور اى حلقات ومنتديات دراسية او محاضرات خلال البرنامج؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

إذا كانت الاجابة "نعم"، فأين \_\_\_\_\_

ومتى \_\_\_\_\_

15 ( هل تشعر انه عند اتمامك لهذا البرنامج بانك ستكون مدرسا/مدرسة على قدر عال من الكفاءة والخبرة والمقدرة وانه باستطاعتك العمل مع اطفال مرحلة الحضانة وما قبل الابتدائية؟

نعم \_\_\_\_\_ لا \_\_\_\_\_

اذا كانت الاجابة "لا"، يرجى الشرح \_\_\_\_\_

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16 ( ملاحظات في نهاية هذا الاستبيان يرجى اعطائنا اى ملاحظات او تعليقات اخرى كنا قد غفلناها ولي رأيك يمكننا الاستفادة منها لتحسين مستوى البرنامج في المستقبل وسد جميع اوجه النقص به وعلى نفس النوال اى ملاحظات ايجابية تود الاشاره اليها.

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نشكر كل من قام باكمال استمارة الاستبيان هذه على عطاءهم من وقتهم الثمين ونتمنى للجميع حظا موفورا في تحصيلهم العلمى والعملى.

تأليف وتجميع السيدة/ جولى حديد، قسم الطفولة المبكرة، معهد التربية، جامعة لندن، المملكة المتحدة، 1993 . جميع الحقوق محفوظة. لا يسمح باستساخ، تخزين، او ارسال اى جزء من هذا الاستبيان باى طريقة سواء كانت الكترونية، ميكانيكية، عن طريق التسجيل او النسخ دون اخذ الموافقة المسبقة للمؤلف.

كافة الحقوق محفوظة. لا يسمح باعادة طباعة او استساخ او استخدام اى جزء من هذه الوثيقة سواء كان ذلك يتم بطرق الكترونية او ميكانيكية او اى طرق اخرى معرولة الان او يتم ابتكارها في المستقبل، شاملا ذلك التصوير والتسجيل او التخزين في أنظمة اسرجاع المعلومات، دون الحصول على الموافقة الخطية المسبقة من المؤلف.

## Appendix O: Correlation Coefficients for Tests Used on Aspects of Cognitive Development

CORRELATIONS BETWEEN TESTS USED ON ASPECTS OF COGNITIVE DEVELOPMENT: Stanford-Binet L/M Form (SB); Wechsler Preschool and Primary Scale of Intelligence: Arithmetic and Block Design Subtests (WPPSI-A; WPPSI-BD; WPPSI-Total) and the Draw-A-Person Tests: Drawing #1: A Man; Drawing #2: A Woman; Drawing #3: The Self (DA-1; DA-2; DA-3; and DA-Total).

The following tables are the recorded correlations for the Stanford-Binet, WPPSI Subtests and the DAP tests administered at pre and post testing. The higher correlations at pre and post testing were recorded for the correlation between the Stanford-Binet and WPPSI outcome measures (pre: .614; post .801). These findings are in line with previous evidence recorded for SB and WPPSI correlations (Wechsler, 1967; Abu Alam, 1980) As the tables show, the correlation coefficients for the WPPSI totals and the DAP total scores were higher at post testing (pre:  $r=.286$ ; post:  $r=.412$ ). The post testing correlation coefficient represents similar findings recorded in previous studies.

## PRETESTING (N=140)

Correlation Matrix for Variables: X<sub>1</sub> ... X<sub>8</sub>

	1SB-TOT	1DA-1	1DA-2	1DA-3	1DA-TOT	1WPPSI-A	1WPPSI-...	1WPPSI-T
1SB-TOT	1							
1DA-1	.392	1						
1DA-2	.386	.862	1					
1DA-3	.421	.845	.901	1				
1DA-TOT	.422	.946	.962	.958	1			
1WPPSI-A	.513	.302	.239	.29	.29	1		
1WPPSI-...	.527	.191	.171	.216	.203	.455	1	
1WPPSI-T	.614	.284	.238	.294	.286	.827	.876	1

# POST TESTING (N=135)

Correlation Matrix for Variables: X<sub>1</sub> ... X<sub>8</sub>

	SB post	DA1-post	DA2-post	DA3-post	DA tot-p...	wppsi A...	wppsi B...	wppsi to...
SB post	1							
DA1-post	.388	1						
DA2-post	.357	.871	1					
DA3-post	.365	.829	.905	1				
DA tot-p...	.391	.944	.966	.954	1			
wppsi A...	.72	.354	.349	.37	.38	1		
wppsi BD...	.753	.355	.344	.382	.379	.695	1	
wppsi tot...	.801	.385	.376	.408	.412	.904	.936	1

Note: 5 cases deleted with missing values.

## **Appendix P:**

### **The effects of preschool experience on some aspects of physical/motor development**

#### **Defining physical growth and some objectives in preschool education**

When we consider the overall growth and development of the child it seems impossible to separate growth facets from one another. The process of development is dependent upon the interrelationships between the psycho-motor, cognitive and affective factors during a life span (Zaichkowsky, Zaichkowsky & Martinek, 1980).

When considering the domain of physical development in children, Boorman (in Blenkin et al., 1987) explains that there are 'no purely physical activities' in the educational process and that by describing them as such, often in rigid-timetabled categories (Bee & Mitchell, 1984), we only create artificial descriptions which lead to misunderstanding about 'healthy physical development.' Like Holt (1975) she claims that physical growth has not been given its place within the realm of scientific enquiry that it so deserves. Others, like Laszlo & Bairstow (1985) believe that physical aspects of development are often ignored while cognitive and social development are only considered important. They call for the need of the literature to represent movement as an inextricable part of the whole process of child development. This appeal is particularly important when we consider the evidence from studies which show children at play, often demonstrating experiences and activities that are underrated, underestimated and underdeveloped in terms of imagination and purpose (Jowett & Sylva, 1986; Smith & Connolly, 1980; Sylva et al., 1980; Tizard et al., 1976).

For some time the assumption has been that if preschool provision provided large quantities of indoor and outdoor play equipment then the needs for physical growth and the refinement of movement abilities would be efficiently and effectively, met. Yet, as many studies have shown, 'more' does not necessarily mean 'better' in terms of physical/motor developmental. For



example, Osborn & Milbank's study (1987) showed that while day nurseries showed overall poor performance on most of the psychometric aspects assessed, they, in fact, had the best outdoor equipment facilities (and staff/child ratios) when compared with the other nurseries and playgroups. The quantity (or lack of) material/apparatus in the preschool environment, does not seem to be as important a variable as once thought. Possibly, more important than how lavish and well equipped the environment is the skill of the adults, as evidenced in many research findings (Bruner, 1980; Clark, 1988; Schweinhart & Weikart, 1978; Smith & Connolly, 1980; Sylva et al., 1980; Tizard et al., 1976). According to Boorman (1984), teachers can help children extend their imaginations and ingenuity in terms of movement by not focusing on outcomes, per se, but rather, by investing in the process of growth. Even at the risk of meddling in children's physical activities teachers should be facilitators, not outside observers who leave physical growth and development to maturation alone (Sylva, 1992; Weikart, 1993). Gallahue (1982) and Cratty (1979) have shown that when adults facilitate motor abilities in terms of social and emotional development, they foster confidence and self-concept measures in the child. Being so, it is best that teachers/adults set realistic expectations; promote skills for understanding and awareness of self and divergent thinking; and provide a balance between relaxation and movement (Hoffman, Young & Klesius, 1981). The emphasis on these roles and objectives for adults take on a larger meaning when the 'sensitive periods' of growth (Brierley, 1976; Montessori, 1967) are considered. According to Walter (1958) there are vulnerable periods marked by rapid periods of growth (physical) which are influenced by environmental factors. While some research runs contrary to the importance of such periods in overall growth (Clark & Clark, 1976) there tends to be strong support which suggests that there are times when the physical growth (the brain) of the child is particularly sensitive to affects from the environment (Branthwaite & Rogers, 1985).

Tanner (1984) claims that these periods may well follow us throughout life, and that if failed to be recognised, may result in permanent deprivation for children (Tanner, 1984; Zigler & Valentine, 1979).

### Experimental studies on the effects of preschool experience on aspects of physical and motor development

Early research studies found little support for the idea that preschool education can establish better attitudes to health and hygiene and therefore improve physical health and motor development. Papousek (1969) when speaking on a comparison between children brought up in homes versus children in day-care in England, claimed that children in centres usually showed delays in speech development and social behaviour but were equal or slightly better than children at home on somatic and motor development skills. In contrast, another study conducted within an institutional care unit found that children in foster homes, where management structures allowed for broader physical movement and autonomy for children, outscored others in children's homes on behaviour/conduct measures (King, Raynes, Tizard, 1971). Later studies would report a higher prevalence of respiratory illnesses in preschool attenders less than two years old when compared with non-attenders (Strangert, 1976).

Possibly, more impressive in terms of preschool education's impact on physical health, would be the numerous research findings from the Head Start programmes in America (Lazar et al., 1982; Travers & Light, 1973; Zigler & Valentine, 1979). McKey et al. (1985) concluded from thirty four combined studies on Head Start, that programme attenders appeared to produce a more meaningful improvement in general physical health when compared to non-attenders. These findings were not part of the meta-analysis procedure used for other psychometric measures, but rather non-quantitative, narrative reports. The one significant quantitative measure in terms of health, was related to the fewer paediatric care visits made by children who attended Head Start programmes when compared with non-attenders. Further follow-up reports suggested that children in Head Start programmes had improved in motor co-ordination and development and the largest gains were observed among children with physical handicaps and developmental delays (Bronfenbrenner & Mahoney, 1975; Palmer & Andersson, 1979; Zigler & Valentine, 1979). In a combined report, Head Start children were also credited with lower absenteeism, fewer cases of anaemia, more immunisations, and better nutritional health (A Review of Head Start Research Since 1969, Social

Research Group, George Washington University, 1977). From these results it was clear that the combined effects of preschool with health and nutritional benefits had improved children's health in the Head Start programmes. Importantly, Head Start was not an intervention programme, as such, but rather a programme deliberately designed to provide for community services and education for young children and families of disadvantage. Programmes and their reported effects on health benefits, varied considerably within local and state jurisdictions.

A more methodologically controlled experiment conducted by Lee, Schnur & Brooks-Gunn (1988) also found favourable gains on physical health and motor development for Head Start attenders. On a sample of over 900 children, Lee and her colleagues looked at differences across three groups: A Head Start group (46%); a group of children attending other preschools (22%), and a group of children without preschool attendance (33%). Although the authors were primarily testing for cognitive differences, a subtest on motor development showed that the children who attended preschool significantly outscored children with no preschool experience, particularly for Black children.

#### Home-intervention:

Further evidence from numerous home intervention studies would lend support to the belief that preschool education (home and centre based) could improve physical/motor development (Alpin & Pugh, 1983; Armstrong & Brown, 1979; Bekman, 1990; Cordus, 1993; Lazar et al., 1982; Lombard, 1981; Wasik et al., 1990; Wolfendale, 1983). Early results from some of the home-intervention programmes of Head Start (the Verbal Interaction Project, [Levenstein, 1981]; the Early Training Project, [Gray & Klaus, 1965]; the Perry Preschool Project, [Weikart, 1967]; and the Infant Education Research Project, [Schaefer & Aaronson, 1972] demonstrated that long terms effects seemed to occur when programmes involved parents as active participants (Bronfenbrenner, 1974). Lombard (1988) has demonstrated that programmes involving parents, particularly those that educate mothers, have long lasting effects on children in terms of overall development. A recent study in Turkey found children receiving preschool education with home intervention (HIPPY), significantly outscored their counterparts at care centres and at home (Kagitcibasi et al.,

1988) on cognitive, social and physical measures of development. Cordus (1993) recently reported on the effects of home and centred-based intervention programmes on children in the Netherlands (Opstap and Opstapje). She found positive effects on children's outcomes measuring aspects of overall development and mother's attitudes. Additional reports from the programmes funded by the Bernard Leer Foundation often cite studies in under-developed countries which lend support to the benefits afforded from educational health and planned parental programmes in early learning settings (Wolfendale, 1983).

Overall, the evidence seems to show that home-intervention programmes do have some inoculating effects on children in terms of health and physical development (Alpin & Pugh, 1983). Even in programmes where academic gains have shown early washed out effects (mainly on cognitive measures), there were noted preventive measures that showed fewer physical problems reported by children and mothers, i.e. fewer visits to clinics for children, more positive child-rearing practices for mothers in home education programmes. Increased benefits from home-intervention have been shown for children at risk for either biological or environmental reasons. Achenbach et al. (1990) in an experimentally controlled study compared three groups of infants from birth to seven years. One group had low birth weight that received an experimental intervention (hospital and home sessions). The other two groups were a non-treatment low birth weight group and a normal birth weight group. At four years there were significant mental and motor development gains and by seven years the children who received treatment outperformed the other groups on mental measures. Another programme, termed Project Care, was conducted by Wasik et al. (1990) in America. It's design was to supplement educational day care programmes with family educational programme and nutritional needs. Sixty-five families with children at risk were randomly assigned to three groups: a combined educational and family programme ; a group receiving only the family programme; and a control group receiving no preschool and treatment. Higher gains on motor and cognitive skills at 12 and 18 months were noted for the group of children in the educational day care receiving family treatment . Later assessments measured mainly for cognitive improvement also, showed higher gains for the day care programme up to three years of age.

Not all preschool programmes show beneficial effects on children's physical and motor developments. Programmes that provide nourishment, a physical training/exercise programme (often supported by active-learning practice) and parent involvement tend to show benefits in children's performance. Often, the greater advantage seems to apply to children of disadvantage, and children at risk.

### Types of Preschools Compared

Other studies experimentally compared different types of preschool programmes in order to study the effects of varying degrees of mobility, movement and activity on children's mental and motor development. Jowett & Sylva (1986) demonstrated that children in playgroups were observed to spend more time wandering around and in waiting behaviours, while their compared group in nursery settings were more actively involved in purposeful and creative play. In another study, Tizard et al. (1976a) observed children's play involvement varied as a result of centre type and social class. While traditional nurseries observed children engaged more in appropriate play behaviour, the middle class groups represented in all three nursery types showed higher mean scores for activities related to gross motor activities. These findings have important implications, in that, if we believe that movement is intrinsically related to intelligence and health, then it would seem that the type of activities that children engage in may well influence the rate and direction of mental and physical growth (Bruner, 1980; Cratty, 1985). Dowling (1992) believes that type of preschool environment has a very 'real' effect on the way children operate in that environment. She believes that children's perceptions depend on physical interaction and that if a child is limited physically, so will be that child's perceptions. Furthermore, if the type of preschool environment denies children development of basic body skills, this can effect children's progress later on, such as in the case of failure at reading/writing skills due to the lack of development of certain co-ordination skills during the early years (1992). Because physical/motor interaction is such a central part to the young child, the effects of learning and development through movement are very broad.

It appears that there is some evidence to support the belief that children receiving preschool education (home- and centre-based) tend to show improved motor ability skills and health when compared to children without preschool experience. Children of disadvantage and at risk seem to benefit the most. There also, appears to be differences in types of preschool orientations which show some effects on children's physical/motor development. More structured, well organised programmes which have clearly defined goals tend to promote increased dexterity and agility in fine motor skills and co-ordination, while more open-ended orientations tend to promote freer reign of expression in the gross motor areas. The quality of the programme, whose characteristics were defined earlier in this review, plays a determining role in the effects on physical/motor development. While there are many views on how to assess quality, Katz (1993) offers some very practical insights. She sees quality as being defined by a multi-perspective view of the preschool environment. It means considering what she calls a 'top-down perspective' (identifying characteristics of the environment from the adult point of view); a 'bottom-up perspective' (how children view the programme); an 'outside-inside perspective' (how families experience the programme); and an 'inside perspective' (how staff view the programme amongst themselves). Each view contributes to the overall assessment of the quality of the programme.

Home-intervention programmes provide some evidence to support positive preschool effects on physical/motor development, yet the findings are not conclusive. In programmes which offer combined educational and nutritional packages for disadvantage it is often difficult to assess which aspects of the entire intervention are responsible for the net gains. Malnutrition youngsters are bound to be more attentive and active due to food supplements, yet how active they are as a result of the programme effects, is often blurred. The one clear finding in terms of long term physical benefits owed to preschool education is the significantly higher proportion of children who are functionally adept at life skills (Weikart, 1993). The gains, in terms of motor skills, seem even higher when we consider programmes which include parent involvement and for those groups identified as the most disadvantaged.

### Factors affecting physical development

Several factors in preschool and home environments have been shown to influence the physical and motor development of children. They are: type of programme; quality of programme; curriculum methods; staff qualifications; staff attitudes & interactions; staff/child ratios; class size; space; crowding.

### Curriculum & availability of materials

Quality programmes, like High Scope, place special emphasis on ways in which to help children with perception and movement skills. By doing so they build fine motor agility and skills in children and improve teacher's confidence and abilities as facilitators of movement in learning (Sylva et al., 1985; Weikart, 1993). For some time structured and well-defined preschool curriculums have demonstrated increased dexterity and control of fine motor movement in children's abilities as a characteristic of their curriculum methods (Isaacs, 1954; Montessori, 1967). Looser, more open-ended preschool methods and curriculum often tend to foster more gross-motor play and more play with non-goal orientated materials, yet these findings are often mediated with other interactive effects from the overall environment, i.e. staff qualifications, parental involvement, maternal characteristics, size and space of facility; quantity of apparatus, etc.

According to some research (Curtis, 1992; Cratty, 1985; David, 1992; Gallander, 1982) all types of programmes can incorporate creative movement curriculum in their programmes, often without additional costs. The idea of creative movement enrichment programmes is not new. Evidence from several studies have shown significant gains in cognitive, self-concept measures, and listening abilities for children engaged in creative movement programmes (Cratty, 1972, 1985; Gallander, 1982; Jones, 1981; Lazlo & Bairstow, 1985). One study by Jones (1981) claims that after one academic year of creative movement intervention her class of all Afro-American children witnessed an average 23.5 point gain in IQ. scores. They also showed increased movement control and

fewer behavioural problems. To some amazement, she accomplished this successful intervention with only two pieces of apparatus--a drum and a tambourine.

These findings demonstrate a wide variation in the range of materials, toys, apparatus and equipment in preschool settings. There is also a wide variation in the evaluations by teachers, staff and parents regarding materials that promote optimum growth and development in children (Curtis, 1986). As suggested earlier, the quantity of material available does not always relate to the quality of interaction within the preschool setting (Bruner, 1980; Vygotsky, 1977). Sometimes limited resources have called upon staff and students to be more creative which is evident in countries where subsidised care operates on a shoe-string budget.

In any country it is important that curriculum adapts and "start(s) from the way people are living and from their (unique) culture: . . . build(ing) on these and on people's strengths" (Bernard van Leer Foundation, 69, Jan. 1993). In keeping with this idea Bruner (1980) states that we should begin our curriculum from where the child is at when he/she comes to us, addressing those needs, strengths and weaknesses.

Another consideration which is being noticed in several classroom curriculums is the intervention of learning by T.V viewing and computer usage. The effects of T.V viewing are well known. Studies have shown that too much T.V leads to lethargic, and often negative behaviours. Violent T.V viewing has been shown to have negative consequences on children's behaviour (Lefkowitz, Eron, Walder & Huesmann 1977) and impair movement necessary for growth. Recent research suggest that there is a likelihood of an increase in cardiac problems amongst today's children as they reach adulthood because of the lack of exercise (Gilliam, 1981). Computers have debilitating effects as well. Some evidence shows that with prolonged use they may induce tension and stress. One obvious argument is that time spent in front of TVs and computers does take away from time otherwise spent on human interaction and exercise - two very crucial elements essential for the healthy well-being of children and adults.



### Crowding & availability of space

Some studies have suggested that crowded conditions in the preschool environments may well be a factor in restricting mobility, free movement, and the opportunity for creative and imaginative play situations (Smith & Connolly, 1980). The research on the effects of crowding mainly stem from animal studies, which were later adapted for preschool settings. Hutt & Vaizey (1966) found differential effects of group density on social behaviour. They found that crowding leads to more aggression and less social interaction in preschool settings. Price (1971) reported only findings of less talking, playing and more solitary play, while Loo (1972) would report that there was less aggression with boys in crowded areas which was contrary to Hutt & Vaizey's findings. Directly tied in with the element of crowding, is the availability of space in the prepared environment. Smith and Connolly (1980) found that with less space there was a decrease in free motor activity (running, chasing) yet more climbing and sliding and more physical contacts with peers. Often the availability (or lack of) toys and apparatus within a given space dictate the direction and degree of physical, motor activity. Kagitcibasi, Sunar and Bekman (1988) found that on three measures used to assess overall characteristics of the environment (space, materials available, and interaction), schools which performed the highest on competence measures (social & emotional behaviours) had more space and materials to offer children, both indoors and outdoors. Several studies applying the ECERS rating scale for assessing overall environmental characteristics of preschool settings (Harms & Clifford, 1980), confirm Kagitcibasi's findings (Beller, 1993).

### Staff/child ratio

Another critical factor in any programme for young children is the ratio of staff per child. Reuter & Yunik (1973), O'Connor (1975), Bruner (1980), and Sylva, Roy and Painter, (1980) have demonstrated that lower staff child ratio often results in more child-child interaction and less staff-child interaction per child. It may also contribute to an increase in aggressive, anti-social behaviours and less opportunity for involvement in constructive, challenging tasks. Recent

research evidence on children during the first four years of formal schooling (US and England) seems to confirm that children in classrooms with higher staff ratios and smaller class size out-perform pupils in larger classes and they maintain that advantage two years later (Mortimore & Blatchford, 1993; Tomlinson, 1990). Other studies in Europe, Japan and China, have shown that lower staff/child ratios may not necessarily have adverse affects on children's performance and that cultural, social and familial characteristics may play a more profound role in competence and achievement (Lamb et al., 1992).

Some factors which share important relationships with preschool experience and it's effects upon physical/motor development and which have not been mentioned are: peer interaction; teacher training and experience; maternal characteristics; and family relationships (investment and involvement). These factors have been taken up in the Chapter 1, Review of the Literature, Some Factors Which Affect the Nature of Preschool Education.

## **Appendix Q:**

### **Further Text on Validity Procedures (General)**

Validity involves procedures that measure the property of a measurement's ability to measure what it claims to measure. Assessing the validity of a measurement is often confined to a particular context yet that does not mean that a test has a single validity coefficient. On the contrary, a test has as many validates as it has purposes. It may be valid for one purpose but not another (Lemke & Wiersma, 1976).

When evaluating the validity of a measurement the evaluator assesses how accurate the relationship is between the measure and its underlying trait. The ways to establish this is often done by drawing upon criterion commonly used for validation--prediction, content or theoretical relationships. More specifically, techniques and procedures which when applied to measurement validation are: construct validity, predictive validity and content validity.

### **Construct Validity**

Construct validity essentially requires a convergence among different methods in measuring the same behavioural dimension. When a measurement has good construct validity it means that the variable measures relate highly on the same behaviours as those predicted (convergence) and they discriminate from the other behaviours which are not expected to relate to each other (divergence) (Campbell & Fiske, 1959). In order to obtain construct validity the evaluator must establish a judgement (decided upon how the validation procedure is related to the theory) and a correlation between measures predicted and other measures of the criterion behaviours.

In considering research which has employed experimental and quasi-experimental designs using quantitative data (product testing) it is generally considered a manageable effort to follow construct validation procedures. In research where observational methods have relied on behaviour sampling from one circumscribed situation, problems of establishing construct validation are more difficult. To produce clear cut evidence that the observed behaviour in one setting is representative of the subject's action in other situations, is not

easy. Most research attempts have fallen short of meeting construct validity requirements mainly because it is difficult to show that the obtained scores on behavioural dimensions bear a relationship to scores obtained on the same dimensions by different measurement procedures (Johnson & Bolstad, 1973). In turn, this implies a potential limitation on being able to generalise beyond the circumstances of the narrowly defined assessment situation. Due to these methodological problems, several observational studies (based on observations made in natural settings) have confined themselves to validation by either content or face validity. Where more elaborate or mixed design models are used, establishing construct validity poses less difficulty although with any investigation the degree of validity depends on other factors which are at the very basis of the nature, design and aims of the investigation, such as the hypothesis, sample, type of experiment or investigation (design), reliability measures, and so on.

### Predictive Validity

Predictive validity is often referred to as 'concurrent' or 'criterion related' validity and is established by a correlation between an outcome measurement and some quantifiable or dichotomised criterion behaviour. This relationship between variables is shown as an index (degree) measurement i.e., correlation coefficient. The criterion behaviour is generally the performance we wish to predict and does not actually represent a futuristic criterion but rather any external referent.

One of the problems in determining predictive validity in psychological research is that it is difficult for the evaluators to agree upon external criteria for measuring performance variables such as motivation, attitude, drive and so on. Even when correlations are high it does not indicate causal links between variable measures nor predictive ability, per se. What it does mean is that there is a tendency for that degree of association between variables to occur. The strength of predictiveness depends on a variety of other elements that constitute the nature, design and purpose of the investigation. Some of these factors are: the experimental design, the sample, measurement reliability, observer experience, and the hypothesis.

For experimental research it is common to draw upon performance outcomes for inference and prediction with some degree of accuracy and confidence,

provided all 'other things are stable.' Yet with observational methods, particularly those in naturalistic settings, the investigation, by nature, does not allow for predictability unless there is evidence of some form of convergent validity by the use of methods other than direct behavioural observation (Kass & O'Leary, 1970).

### Content Validity

Content validity is concerned with the set of behaviours used to define the content of the measurement and is known as the 'domain of content' (Lemke & Wiersma, 1976). It is like dissecting the individual parts (units of behaviour) of the whole (entire measurement). The validity of the measurement is then established by the degree of accuracy which it samples the content of the measurement.

In content validation, the evaluator does not use an external variable for a correlation measure. Normally what is done is for the investigator and others (usually experienced researchers, scholars, teachers) to decipher and evaluate the measurement. When all participants have defined the domain of content, performed a logical analysis of the domain and selected a pool of items with statistical characteristics to represent the concepts in the domain, then it is said that a judgmental agreement has been used to validate the content of the measurement.